

RP90

RealPiano
DIGITAL

OWNER'S MANUAL
English



GEM
by GENERALMUSIC

General safety instructions

Power source

- Be sure that your local AC main voltage matches the voltage specified on the name plate before connecting to the mains.
- DC power cannot be used to power this instrument.

Handling the power cord

- Never touch the power cord or its plug with wet hands.
- Never pull on the cord to remove it from the wall socket, always pull the plug.
- Never forcibly bend the power cord.
- If the power cord is scarred, cut or broken, or has a bad contact, it will be a potential fire hazard or source of serious electric shock. NEVER use a damaged power cord; have it replaced by a qualified technician.

If water gets into the instrument

- Remove the power cord from the wall socket at once, and contact the store where the unit was purchased.
- The top surface of your instrument should never be used as a shelf for flower vases and other containers which hold liquids.

Metal items etc. inside the unit

- Do not permit metal items or other materials to fall inside the unit.
- **Metal items may result in electric shock or damage.**
- Be especially careful with regards to this point when children are near the unit. They should be warned never to try to put anything inside, and never to slide a hand into the unit while you or other persons are playing.
- If articles do fall inside, remove the power cord from the wall socket at once and, if necessary, contact the store where the unit was purchased.
- As a general precaution, never open the unit and touch or tamper with the internal circuitry.

If the instrument plays in an abnormal way

- Turn off the power immediately, remove the power cord from the main outlet and contact the store where it was purchased.
- Discontinue using the unit at once. Failure to do so may result in additional damage or other unexpected damage or accident.

General user maintenance

- Clean the cabinet and keys of your instrument using a soft, clean, slightly damp cloth and polish with a soft, dry cloth.
- Never use industrial cleaners, detergents, abrasive cleansers, waxes, solvents or polishes as they may damage the instrument finish.
- Always turn off the power supply after use and never turn the unit on and off repeatedly in quick succession as this places an undue load on the electronic components.

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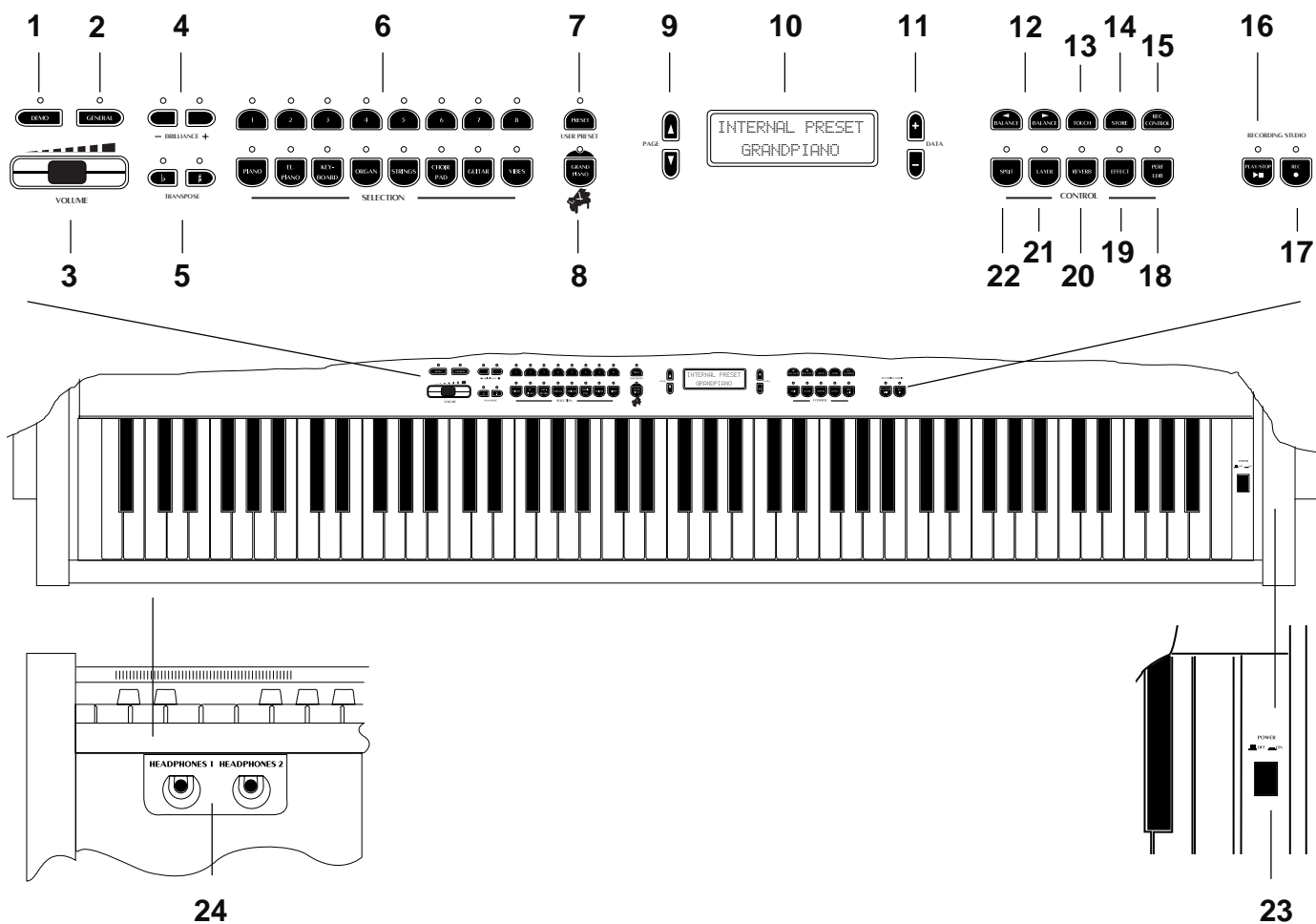
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Section 1

Instrument layout

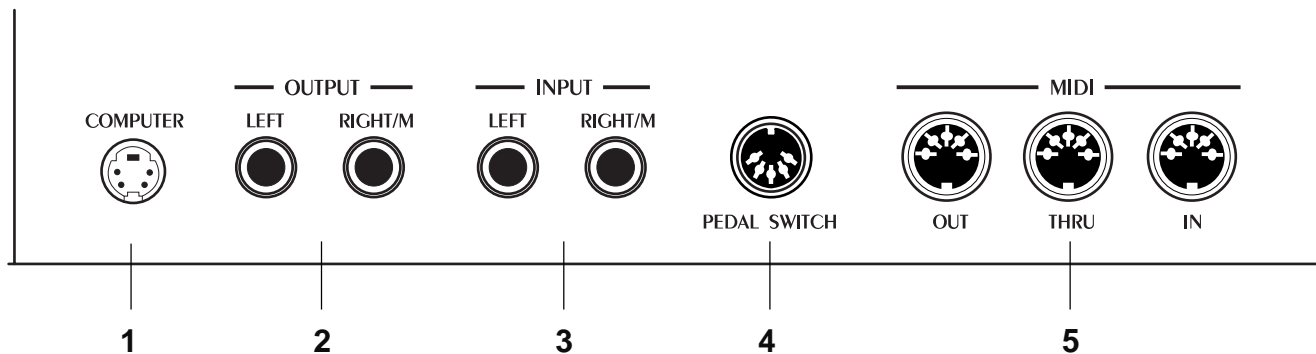
Front panel



- 1. Demo :** Activates the factory programmed demonstration of the internal sounds.
- 2. General :** This button provides access to the functions which affect the instrument as a whole: Tune, Midi, Piano Frame Level, Display Control, Restore Preset.
- 3. Volume Slider :** Controls the main volume of the instrument.
- 4. Brilliance +/- :** Use these buttons to adjust the overall tone of the instrument.
- 5. Transpose #/b :** Increases (#) or decreases (b) the overall pitch of the instrument in half-step (semitone) increments.
- 6. Selection :** Use these buttons to select Presets and User Presets (single, layer or split sound combinations).
- 7. Preset**
User Preset : This button switches between Preset selection mode and User Preset selection mode.
- 8. GrandPiano :** Press this button to select the Grandpiano Preset which instantly recalls the GrandPiano sound across the entire keyboard.
- 9. Page**
Up/Down ▲/▼ : Use these buttons to step through the various functions in the Perf Edit and General menus.
- 10. Display :** 2 x 16 LCD display, backlit.
- 11. Data +/- :** These buttons adjust values shown in the display when using programmable functions.
- 12. Balance ◀/▶ :** These buttons regulate the volume balance between two sounds in either Layer or Split modes.
- 13. Touch :** This button adjusts the touch of the keyboard according to your playing style.
- 14. Store :** Press this button when you are ready to store the changes you have made.

- 15. Rec.Control :** Use this button to set the recording options of the on-board sequencer.
- 16. Play\Stop :** Press this button to playback what you have recorded, to stop the playback or stop the recording.
- 17. Rec. :** Press this button to record what you play.
- 18. Perf. Edit :** Use this button to edit a variety of Preset performance features.
- 19. Effect :** Use this button to select an effect type. When the LED is off, the current effect type is cancelled.
- 20. Reverb :** Use this button to select a reverb type. When the LED is off, the current reverb type is cancelled.
- 21. Layer :** Press this button to instantly activate two layered sounds which play at the same time across the entire keyboard.
- 22. Split :** Turning this button on will split the keyboard into separate left and right parts and automatically recall the sound for the left hand.
- 23. Power :** Situated on the right key block, press this button to turn the instrument on and off.
- 24. Headphones :** The Headphones jack panel is located on the left side of the instrument, under the keyboard.

Rear panel

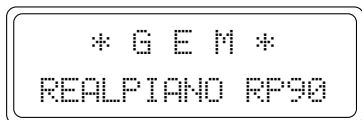


- 1. Computer :** Allows direct connection of the instrument to a PC or Macintosh computer (or relative compatibles) without the need to use a MIDI interface.
- 2. Output
Left - Right/M :** These two outputs are used to connect the instrument to another amplifier, mixer or recording device in stereo. If you are connecting to mono equipment (e.g. a guitar amplifier) then you should use only the Right/Mono jack.
- 3. Input
Left - Right/M :** You can use these two inputs to connect another instrument or sound module to the piano. The output of the other instrument will be mixed with the main signal of the **RP90** and sent to the Output, Speaker and Headphone jacks. If you are connecting a mono signal (e.g. a microphone) then you should use only the Right/Mono jack.
- 4. Pedal Switch :** The pedal group consisting of two pedals (Damper and Soft) should be connected to this connector.
- 5. MIDI interface :** These ports allow the instrument to be connected to other MIDI devices. MIDI In allows the sounds of the **RP90** to be played by an external device, e.g. a controller keyboard or sequencer. MIDI Out sends MIDI information from the **RP90** to other equipment so that the instrument can be used as a controller. MIDI Thru provides a copy of the information being received by the MIDI In. Use MIDI Thru when connecting a number of different instruments together.

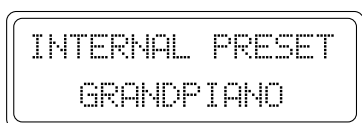
Power switch and Headphones

Turn the instrument on

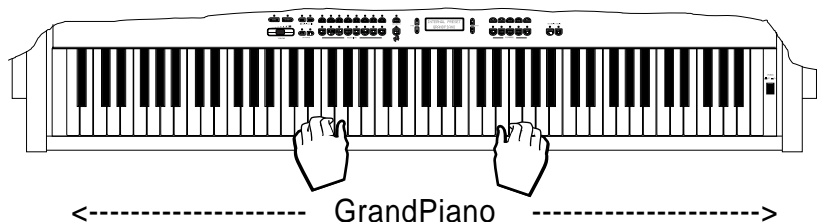
To turn the instrument on, press the Power switch located on the right key block. After turning on, the name of the instrument appears in the display for an instant.



Shortly after, the instrument sets for play showing a default display.

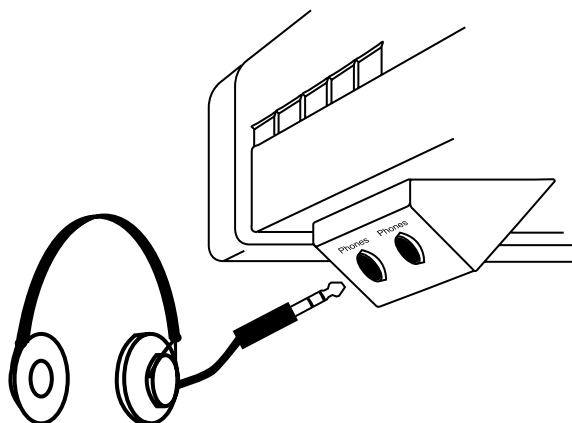


In this power up condition, you will be able to play a piano sound (GrandPiano) across the entire keyboard without carrying out other operations.



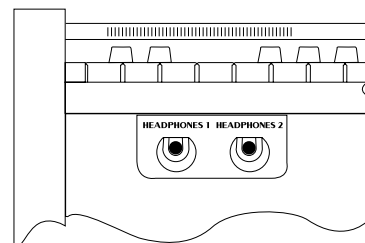
Headphone jacks

The headphone jacks are located at the extreme left side of the rail which runs beneath the keyboard.



Plugging a set of headphones into the left jack excludes the internal speakers to allow you to play in total silence without disturbing others in the same room. Plugging into the right jack does not exclude the internal speakers.

Use the Volume slider to adjust the Headphones volume.



Pedal Connection

The **RP90** is fitted with two pedals; Soft and Damper.

Connect the cable from the pedal assembly to the Pedal Switch connector on the rear panel.



PEDAL SWITCH

Soft : The Soft pedal (left) is a switch control pedal (On/Off) and affects the timbre of the instrument such that it plays softer, allowing you to continue using the same playing style at a lower volume.

Damper : The Damper pedal (right) applies the Sustain effect to all notes released. If you release a note after depressing the Damper, the note will proceed towards its natural decay according to the type of sound played.

The Damper is particularly effective with Piano type sounds.

The Damper is controlled by a Physical Model. See "Technology" in the Reference section.

Note: for all piano type sounds, the notes of the uppermost keys (from E6 to C8) are automatically sustained, such as in an acoustic piano.

Section 2

Quick Study Guide

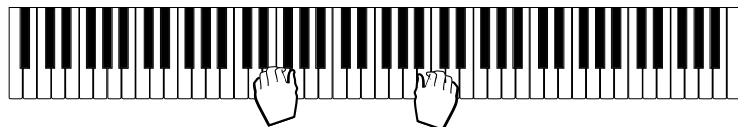
For those of you who don't like to read manuals or wish to read the manual in detail later, here is everything you need to get started. This section will explain how to approach the instrument for the first time in a simple fashion. It will help you to get quickly acquainted with the most important features of the instrument.

Realtime operations

The **RP90** operating system has been conceived to permit several simple and quick real time operations.

• Activate Split mode

Starting from the Single Preset “GrandPiano”, you can easily split the keyboard by pressing the SPLIT button. This will divide the keyboard into separate left and right sections.



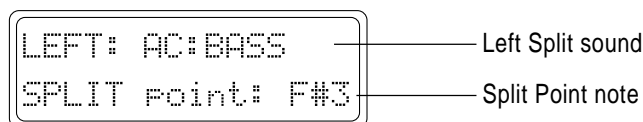
<----- Ac. Bass -----><----- GrandPiano ----->

After pressing the SPLIT button (the LED turns on), the GrandPiano sound remains active on the right side of the split. An Acoustic Bass sound is automatically assigned on the left side of the split.

If you press the SPLIT button again, the LED will turn off and the keyboard returns to the previous mode with the GrandPiano sound active to play across the entire keyboard.

• Change the sound assigned to a Split

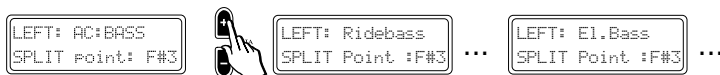
When you press the SPLIT button, for an instant (about 5 seconds) the display shows the sound assigned to the left split together with the current split point setting:



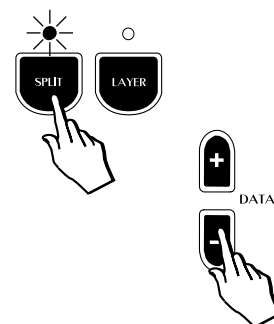
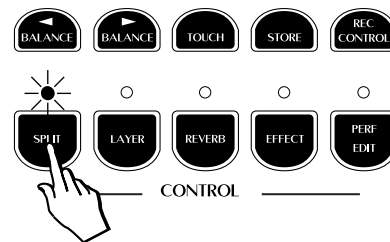
After the temporary period, the display returns to normal showing the starting situation (in this case the GrandPiano display).

1. Press the SPLIT button.
2. While the temporary display is shown, press the DATA +/- buttons to scroll the various sounds.

In this case, pressing the DATA + button will change the sound assigned to the left keyboard section from Ac.Bass to RideBass, then to El.Bass and so on, cyclically through the entire Sound data base (see the Sound Program table on page 26 of this manual).

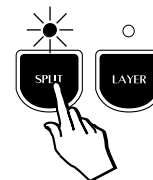


Clearly, if you use the DATA – button, you can scroll the sounds in reverse order.

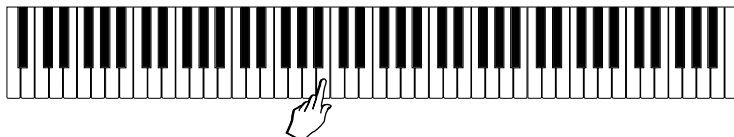


• Change the Split point setting

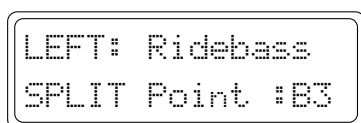
The default setting of the Split point corresponds to F#3. You can quickly modify the setting to suit your requirements.



1. Press and hold down the SPLIT button.
The temporary display appears showing the current split point setting.
2. Press the note on the keyboard corresponding to the new split point required.



In the example, the new split point is shown in the display as B3.



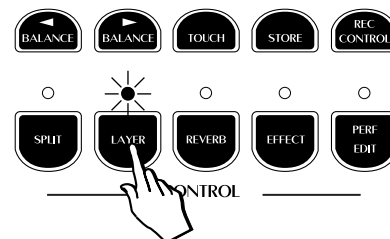
The setting remains memorized until you select a different Preset.

It is possible to assign a different Split point setting to each Preset.

• Activate Layer mode

To mix or “layer” two sounds together, simply press the LAYER button.

1. After pressing the LAYER button (the LED turns on), a second sound is activated layered with the first (in this case, Strings is added to the GrandPiano sound).

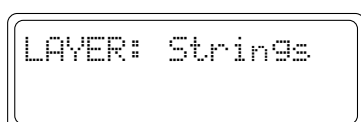


<----- GrandPiano ----->
 <----- Strings ----->

2. If you press the LAYER button again, the LED turns off and the keyboard returns to the previous mode with the GrandPiano sound active to play across the entire keyboard.

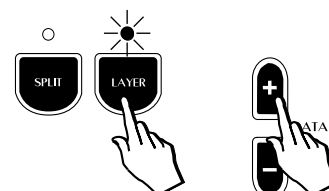
• Change the sound assigned to a Layer

When you press the LAYER button, for an instant (about 5 seconds) the display shows the sound assigned to the layer:

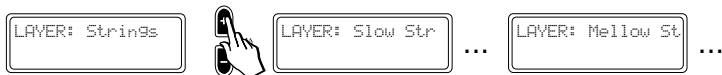


After the temporary period, the display returns to normal showing the starting situation (in this case the GrandPiano display).

1. Press the LAYER button.
2. While the temporary display is shown, press the DATA +/- buttons to scroll the various sounds.



In this case, pressing the DATA + button will change the sound assigned to the layer section from Strings to Slow Strings, then to Mellow Strings and so on, cyclically through the entire Sound data base (see the Sound Program table on page 26 of this manual).



Clearly, if you use the DATA – button, you can scroll the sounds in reverse order.

• **Adjust the Volume of the instrument**

You can regulate the volume of the instrument as a whole by using the Volume slider.

This control increases or decreases the volume of the internal speakers, the Headphones and the Output Left - Right/M jacks.



• **Change the Volume Balance between two sounds**

If you are playing either in Layer or Split mode, you can regulate the volume of the two sections in real time using the BALANCE buttons (in the CONTROL section). These buttons regulate the volume of one section with respect to the other, creating a perfect balance between the two sections according to your requirements.

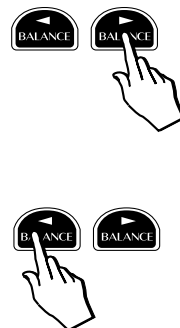
1. Press the right BALANCE button to increase the volume of the main sound.

The volume of the second sound (split or layer) will decrease automatically in proportion to the main one.

2. Conversely, press the left BALANCE button to increase the volume of the second sound.

The volume of the main sound will decrease automatically in proportion to the second one.

If you select a Single Preset (or deactivate the SPLIT or LAYER button), the BALANCE buttons operate as normal Volume controls for the main section.

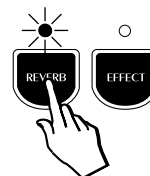


• **Add effects to the selected sound**

You can easily add effects to the selected sound by using the REVERB and EFFECTS buttons in the CONTROL section.

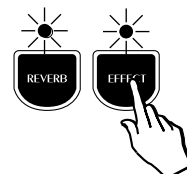
To add Reverb:

- Press the REVERB button (the LED turns on).
In this case, the Hall Reverb effect is added to the Grandpiano sound.



To add Effect (chorus/delay/modulation):

- Press the EFFECT button (the LED turns on).
In this case, the Chorus effect is added to the GrandPiano sound.
Note. It is possible to add either Reverb, or Effect, or both effects to a single sound, to a Split or Layer Preset and the settings can be memorized.

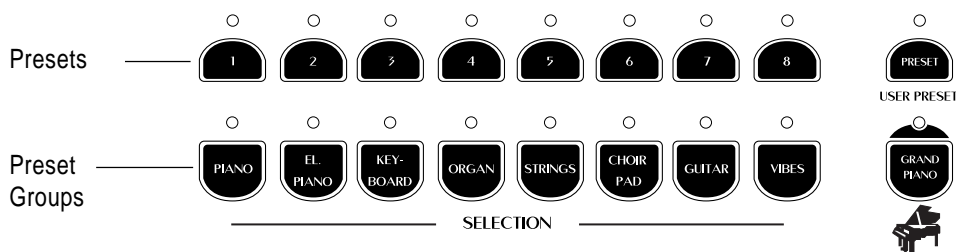


Selecting the RP90 Presets

The **RP90** contains 64 Internal Presets, consisting of single, split and layered sound combinations which incorporate appropriately memorized volume, balance, effect settings and more. An additional 64 User Preset locations are available with as many sound variations and combinations, where you can store your preferred programmed sound settings. The Presets and User Presets are organized in the Selection section.

The Selection buttons

This section consists of a lower row of 8 Preset “family” Groups and an upper row of 8 Presets of the selected Preset Group.



On the right are the Preset/User Preset button and the GrandPiano button. The latter sets the instrument to play the default GrandPiano sound instantly, returning the instrument to Single Preset mode from any situation.

When the LED of the Preset button is off, the sounds recalled relate to the internal Presets.

When the User Preset LED is on, the sounds recalled are user memorized Presets.

The 8 Preset Group buttons are marked as follows: Acoustic Piano, Electric Piano, Keyboard, Organ, Strings, Choir\Pad, Guitar, Vibes.

The 8 buttons of the upper row select 8 different Presets of the currently selected Preset Group and are factory-set to recall Presets in the following manner:

1	2	3	4	5	6	7	8
Single	Single	Single	Single	Layer	Layer	Split	Split

Each Preset of the current Group contains a memorized Layer and Split sound combination which you can recall in real time by activating the appropriate buttons.

Similarly, a Layer or Split Preset is easily converted to one of the other modes by activating/deactivating the Split or Layer buttons accordingly.

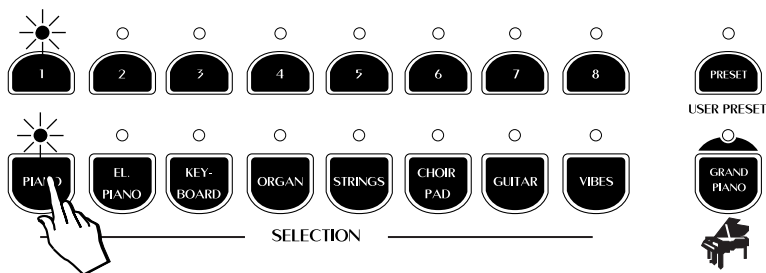
For example, if you have selected the Layer Preset 5 of a Preset Group, simply press SPLIT to recall the memorized Split combination, or deactivate LAYER to recall the memorized Single sound.

When you select a Preset Group from the lower row for the first time after turning on, Preset n. 1 of the upper row is automatically selected by default.

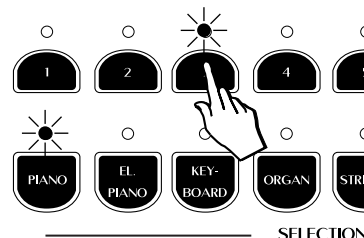


Example 1

1. If you select the Piano Group button, Preset 1 (GrandPiano) is recalled automatically.

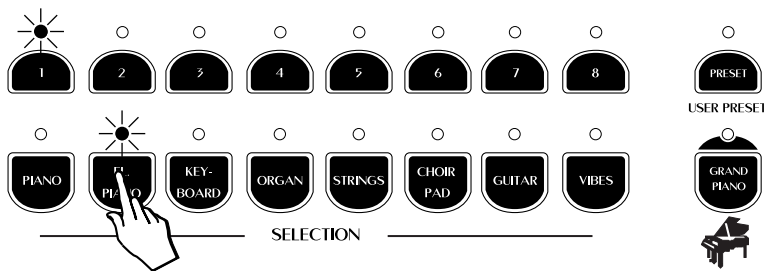


2. Now select button n. 3 of the top row. This will recall the single Preset Upright Piano across the entire keyboard.

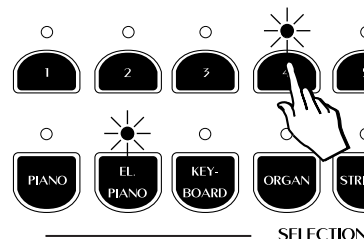


Example 2

3. If you select the El. Piano Group button, Preset n. 1 of the top row activates automatically, recalling the Preset Rhodex.



4. Now press button 4 and you recall the Preset FM Piano. Repeat the operations to select the other Presets.



The last Preset button selected for the current Preset Group remains memorized. For example, if you select the Piano Group button (as in the example explained above), Preset 3 (Upright Piano) will be recalled. If you now select the El Piano Group button, you will recall the FM Piano Preset (button 4).

This system of memorizing the last selection made will help you recall your preferred Presets quickly.

Note: For a list of Presets and factory User Presets, refer to the tables in the Appendix.

User Presets

The same logic also applies to the User Presets. Simply press the Preset button to activate the User Presets (the LED turns on). Here you will find an additional 64 User Presets belonging to the same Preset Groups which recall different sound combinations with respect to the Presets.

For example, you can select the Preset n. 3 of the Piano Group to recall Upright Piano, select User Preset n. 7 to recall Jazz Piano 2, then switch from Preset to User Preset by pressing the Preset/User Preset button repeatedly.

The User Presets are also programmable. You can memorize any preferred sound setting to the User locations without permanently losing the factory User Presets. These can be restored to their original status using the Restore Preset function (see the General chapter).



The Preset

The changes that you make to your sounds and sound combinations (add effects, select Split or Layer, adjust the volumes, change the effect sends, etc.), can be memorized to the User Preset locations.

In simple terms, a User Preset (sometimes also called a “Performance”) is just the end result of some tweaking and editing where the instrument now sounds the way you want it to. At this stage, your User Preset can be saved in memory so that you can instantly recall it the next time you need to use it.

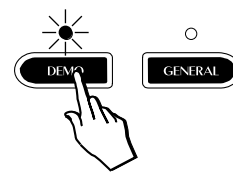
Although the procedure for saving and naming a User Preset is described in detail elsewhere in this manual, the basic steps are very simple.

- After creating a User Preset which you want to store, press the STORE button.
- Next, choose one of the lower Selection buttons followed by one of the 8 buttons of the upper row. Your User Preset is now stored to memory.

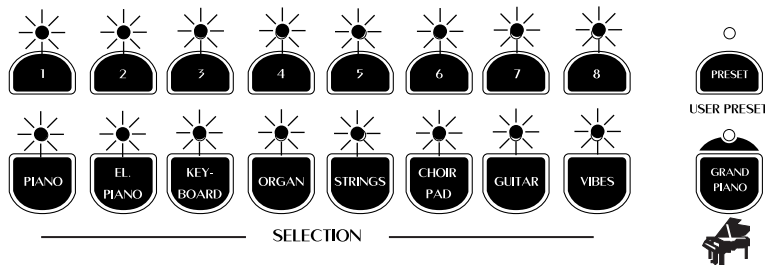
Listen to the Demo songs

The **RP90** contains a set of demonstration recordings of the internal sounds.

- Press the DEMO button to trigger the playback of the demo songs.



The LEDs of the Selection section start to flash.



Shortly after, the first recording of a piano sound starts to play. When it reaches the end, the second recording starts automatically and so on....

- To stop the playback at any point, press the DEMO button again.

The demonstration sequence consists of 16 recordings, chained to play as a medley automatically. Each recording corresponds to a demonstration of theselected Preset of the Selection section.

Select a single demonstration

It is possible select a single demonstration recording without activating the chain playback.

- Press the DEMO button then, while the LEDs of the Selection buttons are flashing, press one of the Selection buttons to trigger the playback of the single recording.

The titles of the recordings are listed below:

Demo song list

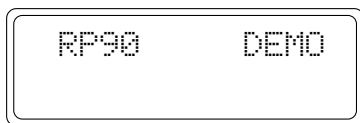
1	2	3	4	5	6	7	8
Beethoven Romance Piano+String	Latin Electric Grand+Bass	Tchaikovsky NutRock Celesta	Walkin' Jazz Organ + Bass	Bach Concerto Harpsi+String	Clouds Pad+Fretless Bass	Karma Strato + Pad	Combo Vibes + Bass
Chopin Prelude Piano solo	Nuances Rhodex solo	Bach v. Goldberg Harpichord	Bach Fugue ChurchOrgan	Vivaldi Concerto in A- Strings	Bach Air Choir	6 string Guitar Alborada	Toccata Vibes solo
Ac.Piano	El.Piano	Keyboard	Organ	String	Choir/Pad	Guitar	Vibes

The buttons of the lower row recall single Preset recordings: piano, organ, etc.. The upper row of buttons recall recordings of the Presets containing two sections: piano and strings, piano and bass, etc.

When you press a button, the corresponding LED remains on and the corresponding demonstration recording starts to play.

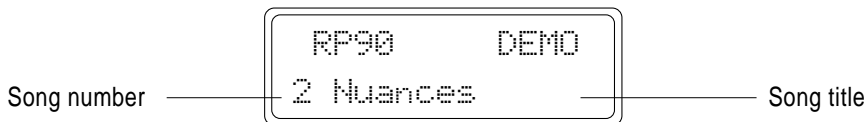
Example:

1. Press the DEMO button. The display shows a message confirming entry into the Demo mode:



2. Press, for example, the El.Piano button.

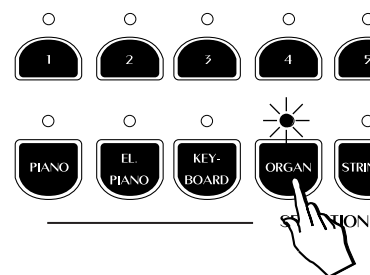
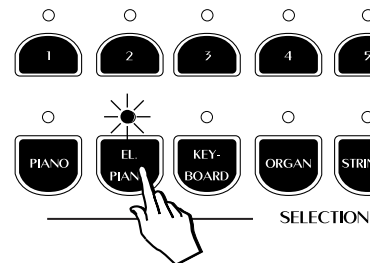
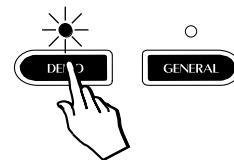
The demo starts to play. At the same time, the display shows the number and name of the Demo song currently playing:



3. It is possible to pass instantly from one Demo song to another by pressing another button (in this case Organ).

4. To stop the Demo song press the relative button again.

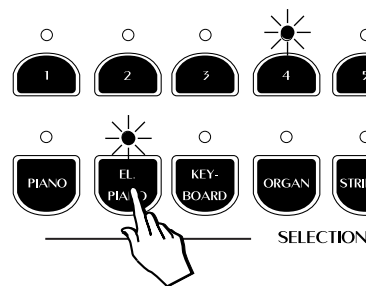
Note: In DEMO mode, all the instrument's panel commands, the keyboard and the MIDI interface will be temporarily disabled.



Recording a song

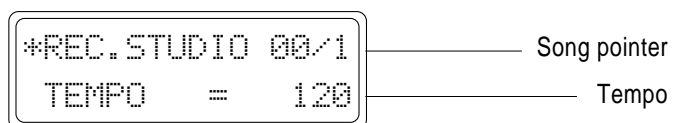
The **RP90** sequencer (Recording Studio) allows you to record a simple song just as you play it.

1. Select the Preset that you want to record.



2. Press the REC button.

The display shows the starting measure of the song pointer and the current Tempo setting.

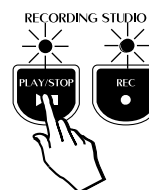
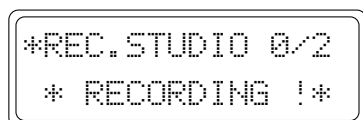


3. Using the DATA +/- buttons to the right of the display, you can change the Tempo setting (the recording and playback speed).

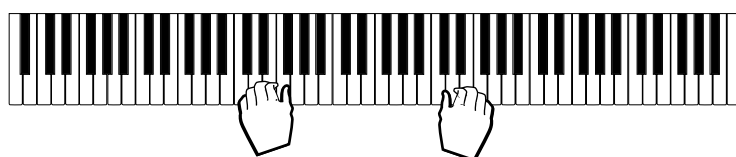


4. Press the PLAY/STOP button.

A one measure countdown into the recording starts and the display shows the message "Recording" to indicate that the sequencer is ready to capture all that you play:

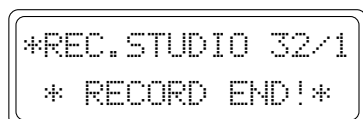


5. Start to play after the one measure countdown.



6. When you have finished playing, press PLAY/STOP.

The display shows the "record end" message.



7. Press the REC button to exit Record mode.



8. To playback your recording, press PLAY/STOP.



Section 3

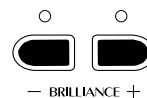
Basic Functions

This section will explain some basic real time panel functions which affect the instrument as a whole.

BRILLIANCE -/+

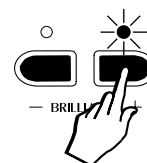
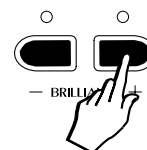
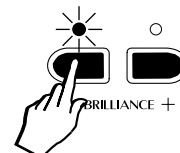
The BRILLIANCE controls in the Control section allow you to adjust the brightness of the instrument's tone. Brilliance affects the instrument as a whole and cannot be applied independently to individual sounds.

When both LEDs are off, the tone of the instrument is normal.



To change the Brilliance setting:

- Press BRILLIANCE - to activate the **Loudness** setting:
The Brilliance - button gives a softer tone (enhancement of the bass frequencies).
- Press the currently deactivated BRILLIANCE button to activate the **Normal** setting (in this case Brilliance +). The LED of the active button will cancel.
- Press BRILLIANCE + to activate the **Bright** setting.
The Brilliance + button gives a brighter tone (enhancement of the high frequencies).



TRANSCOPE

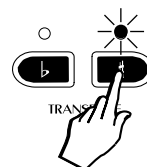
Pressing either TRANSCOPE button will adjust the pitch of the instrument in half-step (semitone) increments or decrements, through the overall range of -/+ 12 semitones.

When both LEDs are off, the pitch of the instrument is set to normal (Equal: C = C).

To Transpose the instrument

1. Press TRANSCOPE #.

The pitch of the instrument is raised one semitone and the amount of transposition is displayed as a relative value for a short period.

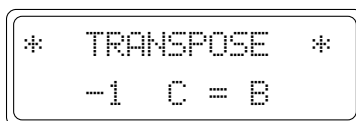
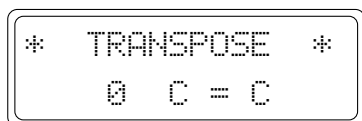


After about 5 seconds, if you don't press either Transpose button, the display returns to the previous situation and the instrument remains at the last set pitch.

Every time you press the TRANSCOPE # button, the pitch is raised by one semitone.

2. Press TRANSPOSE *b*.

The pitch of the instrument is lowered one semitone and the amount of transposition is displayed as a relative value for a short period. (An eventual raised transpose setting will be lowered by one half-step by pressing Transpose *b*).



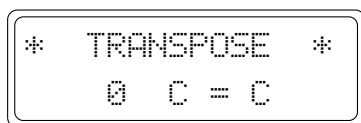
After about 5 seconds, if you don't press either Transpose button, the display returns to the previous situation and the instrument remains at the last set pitch.

Every time you press the TRANSPOSE *b* button, the pitch is lowered by one semitone.

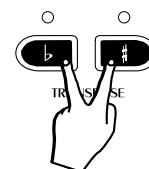
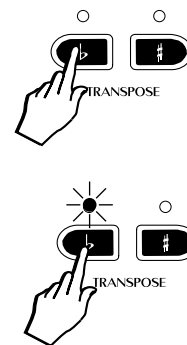
The current Transpose setting remains memorized even after turning the instrument off. When you turn the instrument on again, the LED of the Transpose *b* or # buttons shown on indicate the lowered or raised status of the pitch.

Reset

The current pitch setting can be cancelled instantly by pressing both buttons together.



This restores normal pitch to the instrument.



TOUCH

The **RP90** offers three different keyboard responses, or “velocity curves”, which affect the instrument as a whole. Every time you turn on the instrument, the “NORMAL” curve is set automatically.

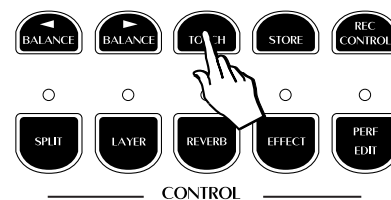
Two other curves are available: Soft and Hard.

Soft : this is useful for a player with a lighter touch or somebody more accustomed to a synth action keyboard. It requires only a relatively soft touch to achieve maximum volume.

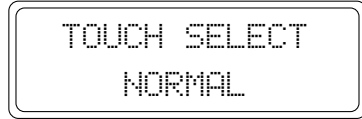
Normal : This setting most accurately represents the touch response of a piano.

Hard : This setting is for “stronger” players. It requires a fairly powerful touch to achieve maximum volume.

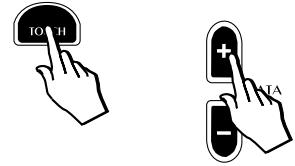
The various curves can be selected by repeatedly pressing either the DATA + or – button after pressing the TOUCH button.



The display shows the selected curve for a short period, then returns to the previous situation.



- After pressing the TOUCH button, press the DATA + button to select the HARD setting.

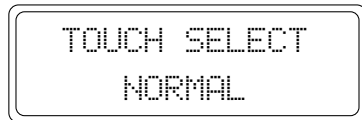


After about 5 seconds, if you don't press either DATA button, the display returns to the previous situation and the instrument remains at the Touch setting.

- Press the DATA + button again to select the SOFT setting.



- Press the DATA + button once more to return to the NORMAL setting.



The selection of the Touch curves using DATA + is cyclic (Hard, Soft, Normal, Hard ...). Use the DATA – button to select the Touch response curves in reverse order (Soft, Hard, Normal, Soft



The selected response curve remains in memory until changed again, or until you turn the instrument off. Turning on again will restore the NORMAL setting.

Section 4

Perf. Edit - the Presets and how to edit them

When you construct a combination of sounds there are many powerful performance features available under the PERF. EDIT button which can help you tailor the sound combination to your needs. This section will explain how to edit Presets to create User Presets.

The concept of the RP90 Preset

How to select the Sounds (or Presets) is discussed in the Quick Guide. This chapter takes a deeper look into the Preset controlling parameters and how to use them to create User Presets to suit your playing.

Whatever **RP90** Preset is selected also recalls a set of user programmable performance parameters, as shown in the table below.

Sound Program
KBD Mode: Single, Split Layer
Sound Volume (section)
Split Point
Section Transpose
Reverb send (section)
Reverb Type + Time
EFX send (section)
EFX Type & parameters
Damper assign
Auto Wha Wha
Microtuning
Detune
Delay
Preset Name

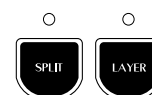
PRESET

As can be seen in the table shown above, the **RP90** Presets “carry” several different types of variable performance parameters, easily accessed and modified. The modified Presets can then be saved (together with any other changes that you decide to make) to the User Preset locations for future recall.

The structure of a Preset

The **RP90** provides three different playing modes: Single, Split and Layer. The passage from one mode to the other is simple and straight forward; from Single, press Split or Layer. From Layer or Split, deactivate the selected Control button to return to Single.

If you have followed the Quick Guide, you will have discovered that the Single, Split and Layer Presets are appropriately programmed to suit the mode being used.



The possibility of switching from one mode to the other is due to the **RP90** Preset structure, which consists of three sections:

1. A section for the main sound (Single mode);
2. A section for the Split;
3. A section for the Layer.

The three sections recall independently programmed control parameter settings together with the possibility of memorising the On/Off status of each section.

You can check this by selecting, for example, the Preset buttons from 5 to 8 for any Preset Group button. You will note that the Split or Layer button will activate automatically according to the Preset button selected.

The Single Presets, on the other hand (buttons 1 - 4) provide the possibility of activating Layer or Split situations at any moment. Furthermore, in the User Preset section, you can save your modified Presets to suit your playing needs.

The Effects

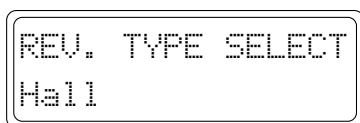
The Presets include DSP data (Reverb and modulating Effects), of fundamental importance from the musical point of view, because it allows you to select the Preset sounds together with appropriate effects settings without additional operations. For example, the electric piano Preset “Rhodex1” (El Piano n. 1) carries the Stage reverb and a Chorus effect, while the Preset “Wurlie” (El Piano n. 2) recalls the Room reverb and a Tremolo effect.

To insert or deactivate the effects, simply press the corresponding effect button (Reverb and/or Effect). When you press one of these buttons, the effect assigned to the current Preset is displayed for a short period.

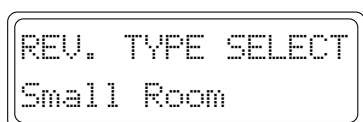
Example:

1. Press the GrandPiano button.
2. Press the Reverb button.

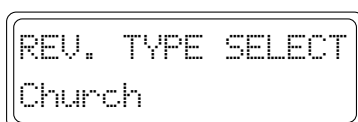
The display shows the reverb type memorized for the GrandPiano sound:



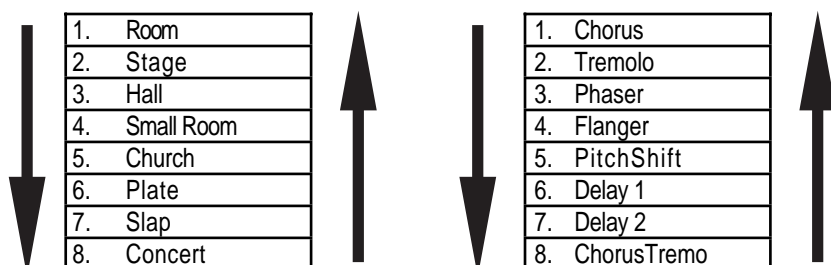
3. If, during the temporary display period, you press the DATA +/- buttons to the right of the display, you can change the Reverb type.



.....

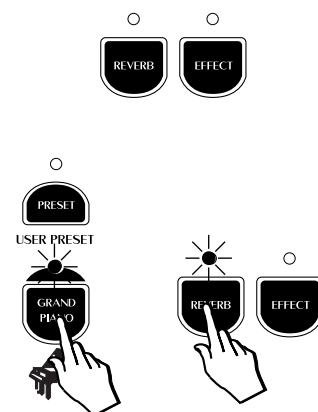


The Reverb and Effect types are selected in cyclic order, as shown in the following tables.



If you press the Reverb and/or the Effect button again (LED turns off), the effect is bypassed and the sound plays “dry”.

Whatever changes you make to the Reverb or Effect selections for the current Preset will be lost when you select another Preset. Further ahead in the manual you will find instructions regarding how to save your changes to memory.



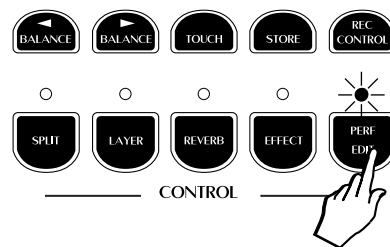
The PERF. EDIT menu

The PERF. EDIT button gains access to several performance parameters of the Presets which can help you tailor your Presets to your needs.

The status of the Edit varies according to the current Preset type selected: Single, Split, Layer.

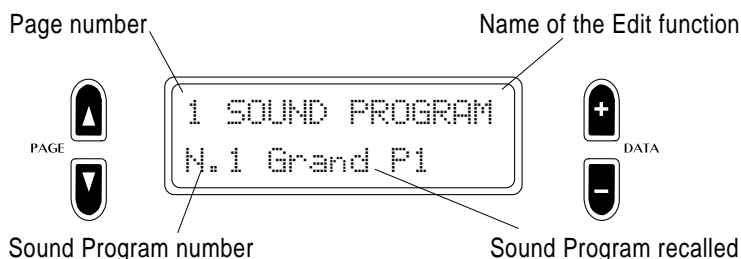
The following table shows the list of the Perf. Edit parameters:

1.	Sound Program
2.	Sound Volume (section)
3.	Section Transpose
4.	Rev. Send (section)
5.	Reverb Time
6.	EFX Send (section)
7.	EFX Parameter 1
8.	EFX Parameter 2
9.	Damp assign (section)
10.	Auto Wha Wha (section)
11.	Microtuning
12.	Detune (Layer mode only)
13.	Delay (Layer mode only)



Press the Perf. Edit button to enter the Preset functions. The corresponding LED starts to flash to indicate that an edit situation is currently in course.

You can select the next or previous function by using the PAGE Up/Down buttons located to the left of the display.



Use the DATA +/- buttons to change the value or status of the selected parameter.

To escape the edit menu, press the Perf. Edit button again. The LED stops flashing and turns off.

For the purpose of the following explanations, select the GrandPiano Preset (press the corresponding button).

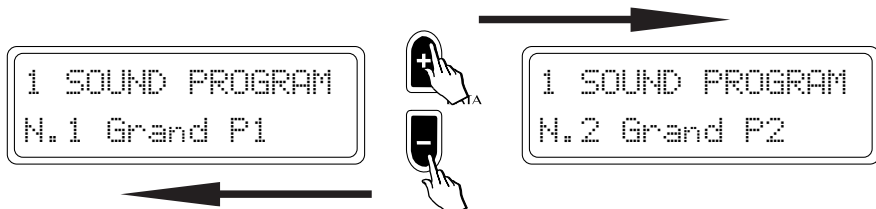
Press the Perf. Edit button to gain access to the relative Edit functions. The first function displayed is the Sound Program.



1. Sound Program

The Sound Program is a fundamental function which determines the instrument's timbre.

Once selected, to change the Sound Program, simply press the DATA +/- buttons to select the next or previous Sound Program (see the complete Sound Program list on the next page).



As in all selection procedures, the Sound Program selection is cyclic. The DATA + button selects in increasing order of Program change while the DATA – button selects in the reverse order.

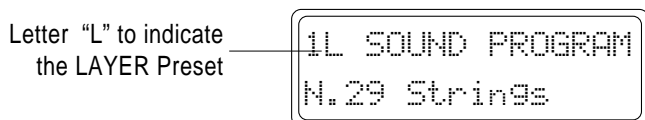
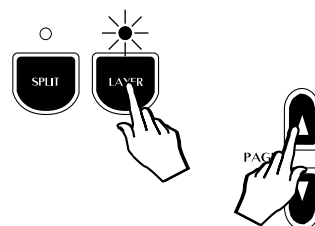
Up to this point, the changes described above apply to the single Preset selected at the beginning (GrandPiano in this case).

Modify the Layer

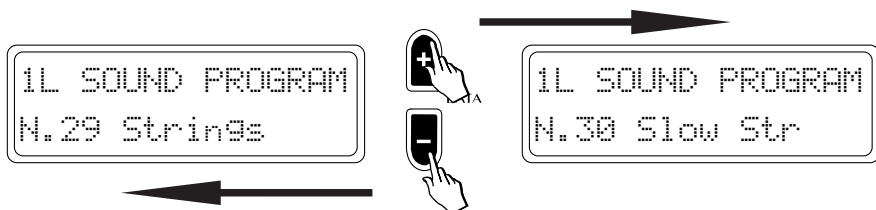
It is also possible to modify the Layer status of the current Preset.

With the Sound Program function still active, press the LAYER button.

The programmed Layer sound (in this case Strings) is added to the main sound. To view the Layer sound, simply press the PAGE UP button:



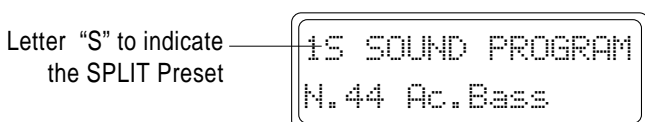
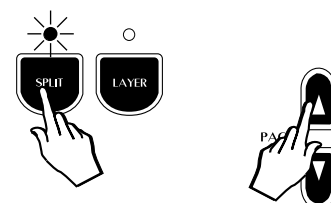
To change the Layer sound, proceed as already described, by using the DATA +/- buttons to select the required Sound Programs.



Modify the Split

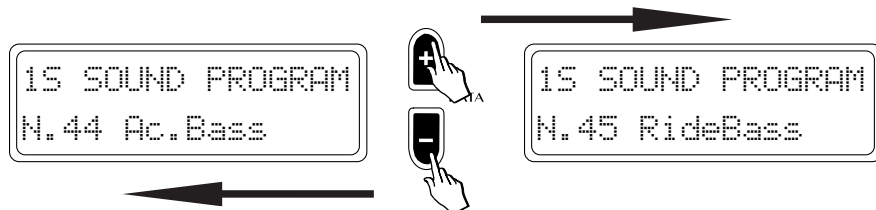
The Split status of the current Preset can also be modified using the same method described for the Layer situation.

Press the SPLIT button followed by the PAGE UP button to view the Split sound (in this case, Ac. Bass):



NOTE: If the Layer section is already selected, you will note that the Sound Program display changes automatically when you press the SPLIT button. The same applies if you press the LAYER button when the Split section is already selected. This is valid for all the edit parameters which affect the individual sections.

Change the Sound Program of the Split section by using the DATA +/- buttons.



Clearly, it is possible to assign any sound from the Sound Program list to either the Layer or Split sections.

The Sound Program table

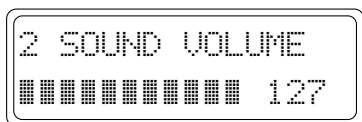
The opposite margin shows a list of the Sound Programs available, including the relative Program Change numbers.

Note that the listed Sound Programs represent single Sounds that can be assigned to either the Single, Split or Layer sections of the Presets. A Preset can recall either a single Sound Program, or a combination of two Sound Programs (in Layer or Split form). The Sound Programs are not to be confused with the Presets, which are listed in the Appendix at the back of the manual.

Pr.Ch.	Name
1	Grand P1
2	Grand P2
3	Upright
4	RockPian
5	Honky T.
6	El.Grand1
7	El.Grand2
8	Rhodes 1
9	Rhodes 2
10	Wurlitz
11	SynWurli
12	FM Piano1
13	FM Piano2
14	Harpsi1
15	Harpsi2
16	Clavinet
17	SynClavi
18	Celesta 1
19	Celesta 2
20	Harp
21	Vibes 1
22	Vibes 2
23	Marimba
24	Pipe Org
25	PopOrg1
26	PopOrg2
27	JazzOrg1
28	JazzOrg2
29	Strings
30	Slow Str
31	Mellow St
32	Choir
33	AtkChoir
34	PadChoir
35	TapPad
36	AtkPad
37	DarkPad
38	IceRain
39	ChimePad
40	NylonGtr
41	SteelGtr
42	JazzGtr
43	StratGtr
44	Ac.Bass
45	RideBass
46	El.Bass
47	Fretless
48	SlapBass

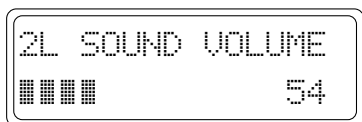
2. Sound Volume

Press the PAGE UP button to pass to the second screen (Sound Volume).

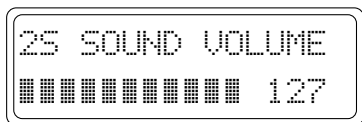


The volume of the main sound of the current Preset is shown by a bar graph and corresponding numerical value.

Press the LAYER button (LED on) followed by PAGE Up to activate the Layer screen (identified by the letter "L").



Press the SPLIT button (LED on) followed by PAGE Up to activate the Split screen (identified by the letter "S").

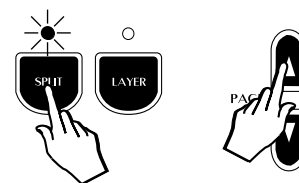
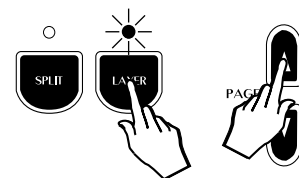


NOTE: When you pass directly from Layer to Split situations (or vice-versa), there is no need to press the Page Up button to see the relative display.

To change the volume setting, press the DATA +/- buttons.

Holding down the DATA + or - button increases or decreases the volume setting rapidly and stops instantly after release.

For another rapid way of changing the volume setting, you can also use the Balance $\blacktriangle/\blacktriangleleft$ buttons.



3. Section Transpose

Press the PAGE UP button to pass to the Section Transpose function.

This function is useful for “octave shifting” when using a Split or Layer Preset. An octave shift is obtained by setting the transpose value to – 12 (one octave lower than normal) or +12 (one octave higher than normal). A maximum Transposition of + 24 or – 24 semitones (2 octaves) can be obtained.

A section transpose setting affects the individual Sound Programs of the current Preset, not the instrument as a whole (as with the Transpose buttons).

The status of the Section Transpose setting in this example is shown as follows:



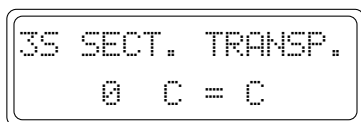
The pitch of the currently displayed sound can be transposed using the DATA + or – buttons. The display example below shows a section transpose setting of one semitone above standard pitch, indicated by the note symbols C=C#.



Press the LAYER button (LED on) followed by Page Up to activate the Layer screen (identified by the letter “L”).



Press the SPLIT button (LED on) followed by Page Up to activate the Split screen (identified by the letter “S”).

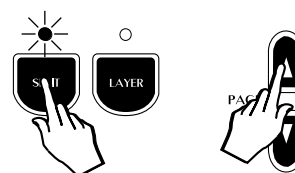
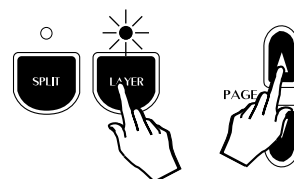


NOTE: When you pass directly from Layer to Split situations (or vice-versa), there is no need to press the Page Up button to see the relative display.

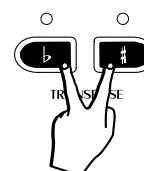
To raise or lower the pitch by one semitone steps, press the DATA + or DATA – buttons repeatedly until you obtain the desired pitch change.

Reset Section Transpose

You can reset the pitch of the displayed sound to the standard pitch (C=C) by pressing both TRANSPOSE # and b buttons together.



Note: the same results are obtained if you use the panel Transpose b/# buttons, but only if you are still in the Section Transpose operating mode.



4. Reverb Send (Rev. Send)

Press the PAGE UP button to pass to the Rev. Send function.

If a Reverb effect has been selected (Reverb button on), the Rev Send function can be used to independently control the amount of reverb applied to a section (Single, Split or Layer) of the current Preset.

For example, the single Preset GrandPiano recalls a reverb send of 64 (a moderate reverb amount), the Layer section (Strings) is programmed at 90 (to give more depth to the sound) and the Split section (Ac.Bass) plays with a Rev Send value of 0.

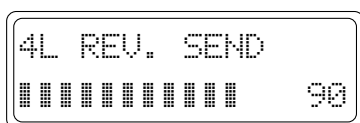
Note: the following examples can be heard on your instrument only if the Reverb button is selected (LED on).

The status of the Rev Send setting is shown as follows:

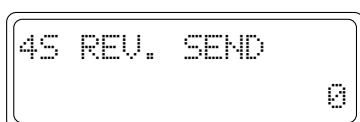


To apply more or less Rev Send to the currently displayed section, press the DATA + or – buttons.

Press the LAYER button (LED on) followed by PAGE Up to activate the Layer screen (identified by the letter “L”).



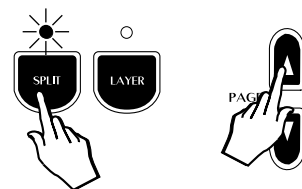
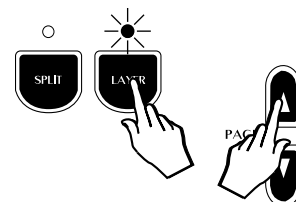
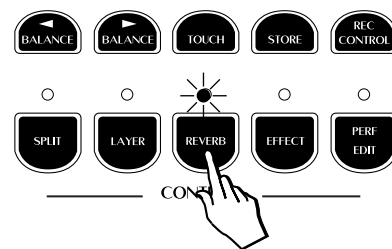
Press the SPLIT button (LED on) followed by PAGE Up to activate the Split screen (identified by the letter “S”).



NOTE: When you pass directly from Layer to Split situations (or vice-versa), there is no need to press the Page Up button to see the relative display.

Holding down the DATA + or – button increases or decreases the Rev Send value rapidly and stops instantly after release.

A maximum value of 127 or a minimum value of 0 can be obtained. The “0” setting corresponds to no Reverb.



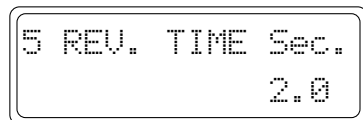
5. Reverb Decay Time (Rev. Time)

Press the PAGE UP button to pass to the Rev. Time function.

Unlike the Rev Send function, the Rev. Time page affects all three sections of the current Preset, therefore, only one screen appears regardless of the status of the Single, Layer or Split mode.

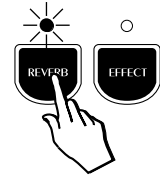
If a Reverb effect has been selected (Reverb button on), the Rev. Time function can be used to control the “reverb time”, or the delay amount for the particular reverb type selected for the current Preset. Basically, this allows you to proportionally increase or decrease the dimensions of the surroundings simulated by the DSP.

Pressing Page Up activates the following display:



Holding down the DATA + or – button increases or decreases the Rev. Time value rapidly and stops instantly after release. The value obtained is expressed in seconds.

Note: To listen to the changes made, the Reverb button must be selected (LED on).



6. Effect Send (EFX. Send)

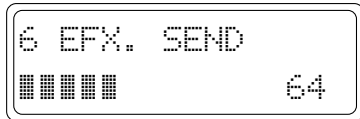
Press the PAGE UP button to pass to the Efx. Send function.

This function works in exactly the same way as Reverb Send. The EFX. Send function can be used to control the amount of Effect applied to the sections of the current Preset.

For example, the single Preset GrandPiano recalls an Effect Send of 64, the Layer section 100 and the Split section 0.

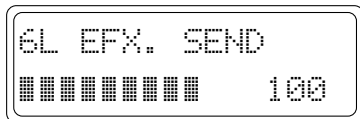
Note: the following examples can be heard on your instrument only if the Effect button is selected (LED on).

The status of the Efx. Send setting is shown as follows:

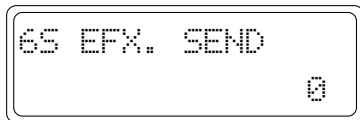


To apply more or less EFX. Send to the current sound, press the DATA + or – buttons.

Press the LAYER button (LED on) followed by PAGE Up to activate the Layer screen (identified by the letter “L”).



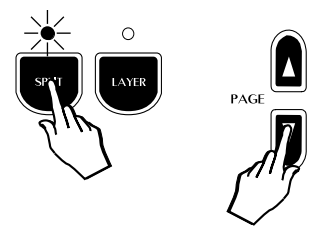
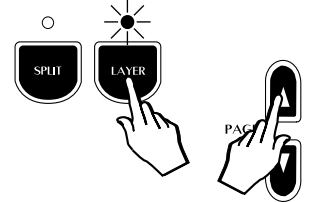
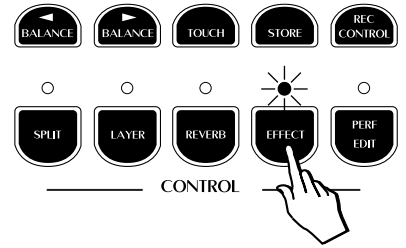
Press the SPLIT button (LED on) followed by PAGE Up to activate the Split screen (identified by the letter “S”).



NOTE: When you pass directly from Layer to Split situations (or vice-versa), there is no need to press the Page Up button to see the relative display.

Holding down the DATA + or – button increases or decreases the EFX. Send value rapidly and stops instantly after release.

A maximum value of 127 or a minimum value of 0 can be obtained. The “0” setting corresponds to no Effect.

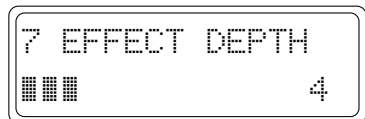


7 & 8. Effect Editing

Press the PAGE UP button to pass to the Effect Edit function.

The two pages which follow after the Efx. Send function will be different depending on which Effect has been assigned to the current Preset.

The two Effect Editing functions affect all three sections of the current Preset, therefore, only one screen for each parameter appears regardless of the status of the Single, Layer or Split mode:



The following table lists the available Effect Types and the two associated parameters which can be modified:

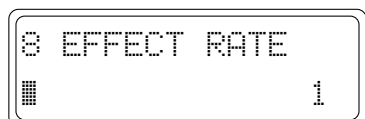
Effect	Type	Parameter 1	Parameter 2
1. Chorus	Modulation	Depth (amount of modulation)	Rate (modulation velocity)
2. Tremolo	Modulation	Depth	Rate
3. Phaser	Modulation	Depth	Rate
4. Flanger	Modulation	Depth	Rate
5. PitchShift	Frequency	Coarse Tune (coarse tune in semitone steps)	Fine Tune (fine tune of the frequency in "cents")
6. Delay 1	Delay	Delay Time (the time it takes for a repeat to occur)	Feedback (the number of repeats heard before effect fade out)
7. Delay 2	Delay	Delay Time (the time it takes for a repeat to occur)	Feedback (the number of repeats heard before effect fade out)
8. ChorusTremo	Modulation	Depth	Rate

For example, the single Preset "GrandPiano" has been programmed to play with the Chorus Effect.

From the table shown above, you can see that the first parameter displayed for editing will be "Effect Depth" (the total amount of the available Chorus).

Modify the first parameter value by using the DATA +/- buttons.

Press the Page Up button to pass to the second parameter, "Effect Rate":



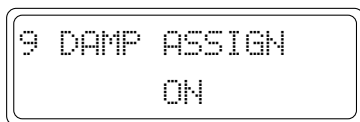
Modify the second parameter value by using the DATA +/- buttons.



9. Damper Pedal Assign (Damp. Assign)

Press the PAGE UP button to pass to the Damper Assign function.

This function allows you to assign the Damper pedal to the sections (Single, Layer or Split) of the current Preset. The first screen to be shown corresponds to the Single situation set to On:



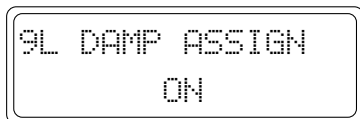
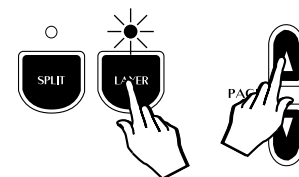
For example, if you mixed a main Piano and secondary Strings sound (layered combination) and you wanted the damper pedal to sustain the piano but not to affect the strings, you would set the Damper Assign On to the main single sound and Off to the Layer sound.

The default setting for this parameter is shown in the following table:

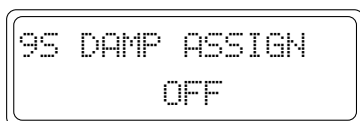
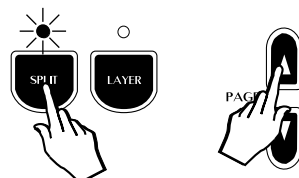
Main	Split	Layer
On	Off	On

You can modify the default status for the current Preset section to suit your needs.

Press the LAYER button (LED on) followed by PAGE Up to activate the Layer screen (identified by the letter "L").



Press the SPLIT button (LED on) followed by PAGE Up to activate the Split screen (identified by the letter "S").



NOTE: When you pass directly from Layer to Split situations (or vice-versa), there is no need to press the Page Up button to see the relative display.



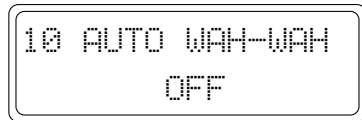
To change the On/Off status of the Damper Assign function, use the DATA +/- buttons.

10. Auto Wha-Wha

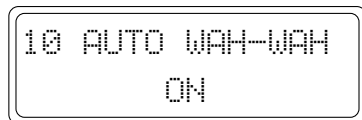
Press the PAGE UP button to pass to the Auto Wha-Wha function.

Auto Wha Wha is a classic effect from the vintage keyboard era, which the **RP90** allows you to control according to the velocity you apply to the keyboard. This effect is independently assignable to the Preset sections (Single, Split, Layer).

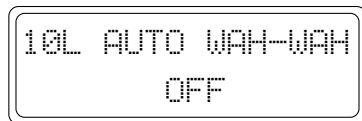
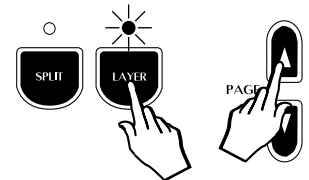
The default setting of this parameter is Off for all sections, as shown in the following Single Preset display:



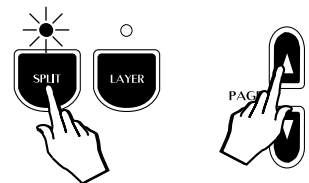
Use the DATA +/- buttons to switch the setting to On as required for the current section:



Press the LAYER button (LED on) followed by Page Up to activate the Layer screen (identified by the letter "L").



Press the SPLIT button (LED on) followed by Page Up to activate the Split screen (identified by the letter "S").



NOTE: When you pass directly from Layer to Split situations (or vice-versa), there is no need to press the Page Up button to see the relative display.

Use the DATA +/- buttons to change the On/Off status of the Layer or Split sections.



11. Microtuning

Press the PAGE UP button to pass to the Microtuning function.

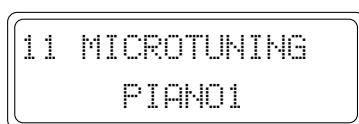
This function allows you to select from a variety of alternative tunings, or Keyboard Scales (Temperaments). It is also possible to program a preferred scale (User).

The selection of available scales is as follows:

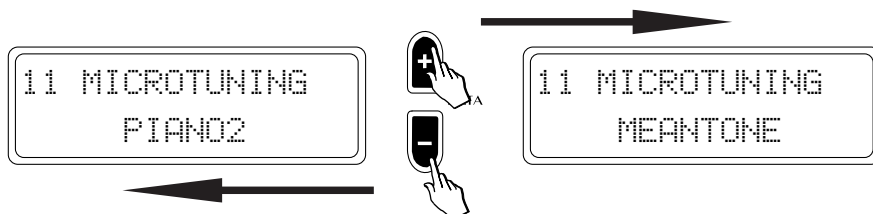
Microtuning	
1.	Equal
2.	Piano1
3.	Piano2
4.	Meantone
5.	Kirnberger
6.	User

As an example, the GrandPiano Preset is programmed to play with the Piano1 tuning which faithfully reproduces the tuning scale of a concert grand piano.

The tuning scale selected affects all sections of the current Preset (Single, Layer, Split), therefore, only one screen appears regardless of the status of the Single, Layer or Split mode:



Use the DATA +/- buttons to select from the various tunings available. The selection procedure is cyclic as in other selection menus:



The tuning scale is independently programmable for all Presets.

User Microtuning

If you select the User scale, you can accurately retune every note of the instrument to create a personal tuning Preset.

Each note of the keyboard can be fine tuned through the range ± 64 cents.

The operation of this function is very simple.

Once you have selected the User option, press a key on the keyboard corresponding to the note you wish to retune.



The display “captures” the key that you played:

```
11 MICROTUNING  
USER : C4 =00
```

You can now repeatedly play the same key and adjust its tuning with the DATA +/- buttons.



```
11 MICROTUNING  
USER : C4 =34
```

When you have tuned the note to your requirement, press another key and proceed as before.

When you have finished tuning all the notes you need of the scale, press the Perf. Edit button to escape the edit and store your User scale by using the Store function described further ahead.

Note: The User Microtuning scale is one only; it is not possible to program a different User scale for each Preset.

If you want to restore the user tuning to the factory setting (all note values = 0, corresponding to the Equal scale), you can use the Restore Tuning function under the General button. Refer to the General chapter of this manual for more details.

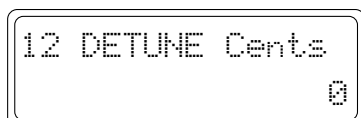
12. Detune

NOTE: This function is only available when a Layer Preset is being used. If a Single Preset is currently displayed, the Detune display will not be shown.

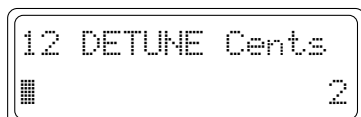
This feature allows you to detune the main sound of the current Layer Preset with respect to the second by the number of cents displayed.

To gain access to this function, you must select a Layer Preset, or activate the Layer section of a Single Preset.

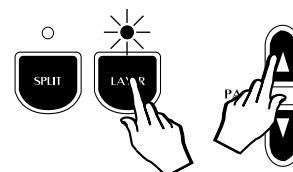
Press the PAGE UP button to pass to the Detune function. The Layer Detune display appears as follows:



You can now repeatedly play a note on the keyboard and adjust the Detune value with the DATA +/- buttons.



You can detune the main sound by up to +12 Cents. Lower values are useful for creating a natural chorus effect between two sounds. At higher values a “Honky Tonk” effect can be obtained.

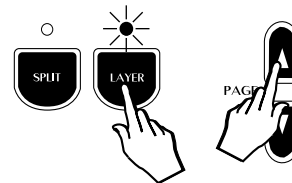


13. Delay

NOTE: This function is only available when a Layer Preset is being used. If a Single Preset is currently displayed, the Delay display will not be shown.

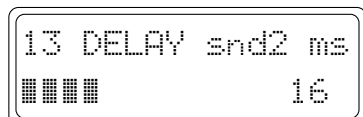
This function allows you to apply a delay to the Layer section of a Preset. To gain access to this function, you must select a Layer Preset, or activate the Layer section of a Single Preset.

Press the PAGE UP button to pass to the Delay function. The Layer Delay display appears as follows:



Adjust the Delay value with the DATA +/- buttons.

The value shown represents the number of milliseconds which will elapse before the second sound is heard.



The range of values available are from 8 to 800 ms.

Note: This type of Delay is independent from the effect of the same name generated by the DSP, because it is obtained by delaying the generation of the Layer section with respect to the main Sound Program.

14. The Store command

The Store command allows you to save your new Preset to memory. After you have spent some time adjusting the various Edit functions, you will have created a USER PRESET. Refer to the explanations regarding the Preset in the Quick Guide for more information.

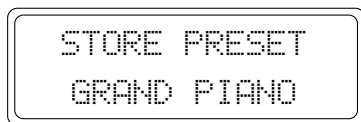
You can choose to store the User Preset with its original name, or write a different one.

If the changes you have made up to this point are not saved before you select another Preset, they will be instantly lost as soon as you select a new one. Therefore, if you have spent a long time adjusting your sound combination, don't forget this very important step.

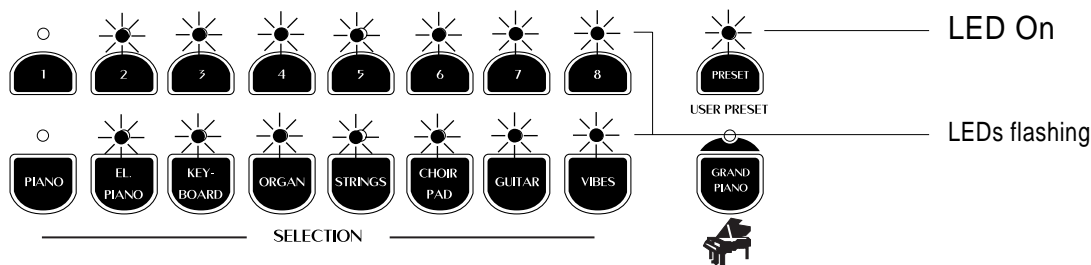
How to store your modifications

1. After creating a Preset which you want to store, press the Store button.

The display will show the following message.



At the same time, the LEDs of all the Selection buttons, except those corresponding to the current Preset, start to flash. This will help you decide where to store your new User Preset. The LED of the User Preset button remains on.

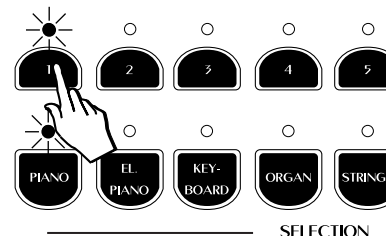


At this point, you can decide to overwrite to the current User Preset or to a different one.

Store the modified Preset to the same location

2. Press the corresponding selection button (the one shown with the LED off). Button 1 in this case.

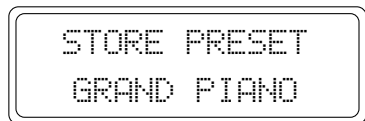
Shortly after, the LEDs of all the other buttons stop flashing and the display shows the modified sound ready to play. The Preset currently occupying the location saved to will be overwritten by the new one.



Note: remember that you can modify the sounds of the Preset and User Preset memory locations but, when you store the new result, it will always be stored to the User Preset locations. Therefore, if you make some changes to a Preset, the modified version will be stored to the equivalent location of the User Preset memory location (as in the example explained above).

Store the modified Preset to a different location

- After pressing Store, simply press any button corresponding to a different location.



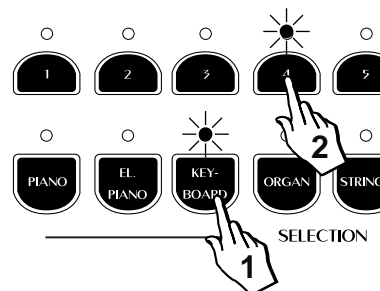
You can choose to press either;

a different Preset button (store to the same Group location), or;

a different Group button (store to the same Preset location of a different Group button); or;

a different Group button and Preset button (as in the example opposite).

If you want to cancel the Store operation without saving, simply press STORE again while the LEDs are still flashing.

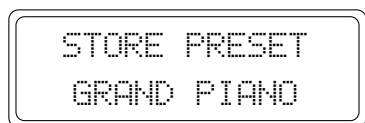


Change the name of the Preset

It is possible to store your new Preset with a different name.

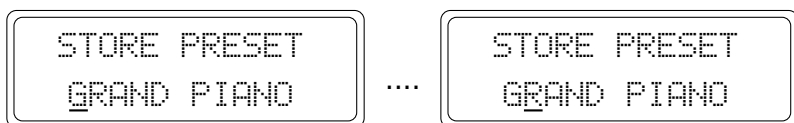
- After making your changes, press the STORE button.

The Store Preset display is shown:



- Now, using the Page Up/Down buttons and the DATA +/- buttons, you can change the name of the displayed Preset.

In this condition, the first character of the Preset name is active for a change. The Page Up button moves the display cursor to the next character position on the right, while Page Down moves it to the left.



The DATA + button selects the letters of the alphabet in increasing order (A, B, ... Y, Z) while the DATA - button selects in reverse order.



- Once you have written a new name for the User Preset, select its location in the User Preset memory slots as described above.

Related subjects: General menu: Restore Preset, Midi Dump menu.

Section 5

General functions

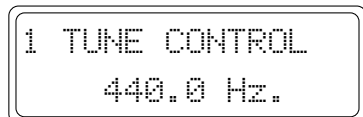
The General button contains both the MIDI controls of the instrument and a number of important General Control features.

General Functions

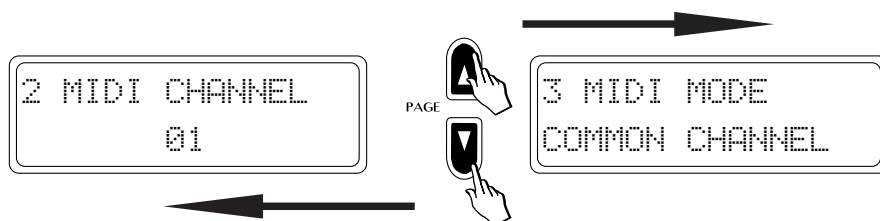
The GENERAL button contains a number of Master control features as well as MIDI controls. The functions available are:

Tune Control, MIDI Channel, MIDI Mode, MIDI Transpose, Filter MIDI In, Filter MIDI Out, MIDI Local, MIDI Clock, MIDI Dump, Computer, Restore Preset, Restore Microtuning, Piano Frame and Display Contrast.

To gain access to the General function, press the GENERAL button.



Use the Page Up/Down buttons to navigate through the functions.



Use the DATA +/- buttons to change the selected parameter value or the on/off status.

The selection procedure is cyclic, therefore, if you are on page 3 and want to pass to page 13, simply use the DATA – button to select the functions in reverse order; 2, 1, 14, 13, etc..

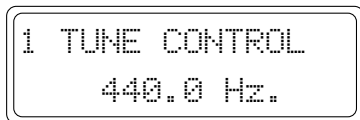
The last page selected is memorized, allowing you to leave the menu and return at any time to the most frequently used General function.



1. Tune Control

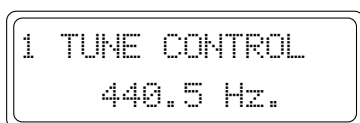
This function allows the entire instrument to be tuned to match another instrument which may be slightly out of tune.

Pressing the GENERAL button for the first time activates the Tune Control display:

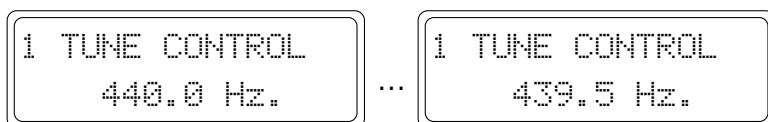


The display refers to a standard reference for the pitch of concert A = 440 Hz. The available Tuning range is from 427.5 Hz to 452.5 Hz in steps of 0.5 Hertz at a time.

Use the DATA + button to raise the tuning value:



Use the DATA – button to lower it:



Holding down either the DATA + or – button changes the value continually until you release the button.

The Tune Control value remains in memory until changed again, or until you turn the instrument off. When you turn on the instrument, the Tune Control value will return to the standard value (A = 440).

Reset

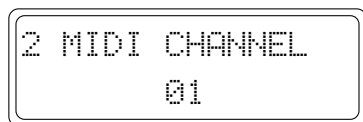
To restore the Tune Control value to the standard setting in a single step, press both DATA + and – buttons together.



2. MIDI Channel

This function allows you to change the “primary MIDI channel” for the instrument, regardless of the keyboard status (single, layer or split).

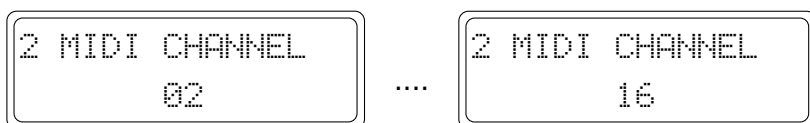
Pressing Page Up shows the following display:



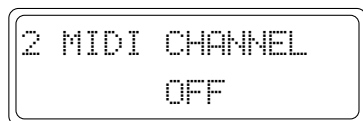
This is both the send and receive channel for the Single section of the current Preset across the entire keyboard.

The MIDI Channel of the secondary sections (Layer or Split) is automatically controlled by the MIDI Mode function explained afterwards.

Use the DATA +/- buttons to select the MIDI channel, from 1 ... 16:



When you reach channel 16, the next value is OFF; this disables the instrument for MIDI transmission and reception:



The channel selection procedure is cyclic, therefore, from channel 1, you can pass directly to the MIDI Off situation using the DATA – button to deactivate MIDI transmission/reception.

The last MIDI Channel selected is memorized, even after turning the instrument off.

3. MIDI Mode

This function provides two different modes of operation for the MIDI interface: Common Channel or Dual channel.

Common Channel

Press the PAGE Up button to pass to the Common channel page:



```

3 MIDI MODE
COMMON CHANNEL
  
```

The Common Channel mode is selected by default.

With this setting the **RP90** receives and sends Midi data on a single channel only (set on the previous page), regardless of the current keyboard mode of the Preset (single, split, layer). The Common Mode is best used when you connect the **RP90** to an expander. In this case, changing the Presets will send Program Change messages from 1 to 64 to the expander, while changing the User Presets will send Program Change messages from 65 to 127, allowing you, therefore, to change the sounds of the external generator from the **RP90**.

A Program Change message received by **RP90** on the Common Channel will not change one of the individual sound programs of a Preset. Instead, it will be interpreted as a Preset Change message.

Dual Channel

This mode determines the MIDI channel of the main and secondary sections of a Preset (Layer or Split).

Pressing the DATA + or – button selects the second MIDI Mode function: Dual Channel.



```

3 MIDI MODE
DUAL CHANNEL
  
```

Selecting Dual Channel mode automatically disables Common channel mode.

The MIDI channel of the main section is selected from the Midi Channel page, as already explained. The MIDI Channel of the secondary section (Layer or Split) is automatically assigned according to formula “N + 1” where N = the MIDI channel of the main section. For example, if you have assigned MIDI channel 1 to the main sound, the Layer or Split will have MIDI channel 2. This channel will be both the send and receive channel for the second section.

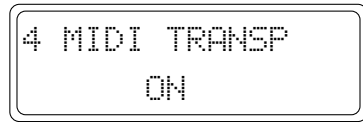
In Dual channel mode, the MIDI messages transmitted and received will be separate for each section. The Program Change and Control Change messages will depend on the Sound Program of the selected Preset (refer to the MIDI Implementation chart in the Appendix).

The last MIDI Mode selected is memorized even after turning the instrument off.

4. MIDI Transpose

This function allows you to enable/disable the transmission via MIDI of a transposition that you may apply to the instrument, so that an external MIDI device receives or doesn't receive transposed note messages.

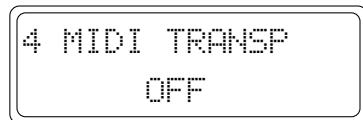
Pressing Page Up shows the following display:



MIDI Transpose ON is the default setting.

For example, if you connect an external expander to **RP90**'s MIDI Out and, with MIDI Transpose ON, you transpose **RP90** by 1/2 semitone and the external expander will also play 1/2 semitone higher.

To disable MIDI Transpose, use the DATA – button to select the “OFF” setting:



The last setting remains in memory until changed again, or until you turn the instrument off. When you turn on the instrument, the MIDI Transpose will return to ON.

5. MIDI In Filter

This function allows you to block the reception of certain MIDI messages which might be unwanted on some occasions.

Pressing Page Up shows the following display:



The following table lists the filter in messages available:

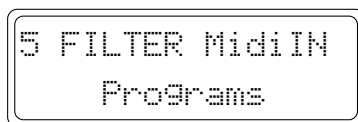
Midi In filter message	
OFF	no filter
Programs	program change
All Contr	All midi controllers
Prog + Vol	prog.chng & volumes
Volume	Midi volume
Pedals	Hold,sustain,soft
Pitch	pitch bend

Use the DATA +/- buttons to select the message that can be filtered out of the MIDI IN data stream.



The default setting for the MIDI IN Filter is OFF.

For example, if you were playing a MIDI file from an external sequencer using the El.Grand Preset, you might find that the Preset you have selected changes every time you start playback of the sequence. This happens because the sequence includes a Program Change at the beginning of the song. To overcome this problem, you would select the MIDI IN FILTER "PROGRAMS".



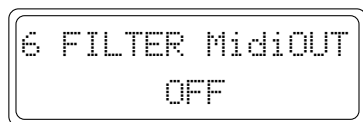
This means that the **RP90** would then ignore any Program Change messages that it receives from the external device.

The last MIDI In Filter selected is memorized even after turning the instrument off.

6. MIDI Out Filter

This function is used to stop the instrument from transmitting certain MIDI messages which might be unwanted on some occasions.

Pressing Page Up shows the following display:



The following table lists the filter out messages available:

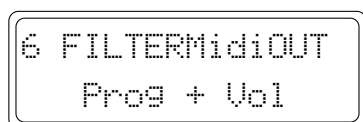
Midi OUT Filter message	
OFF	no filter
Programs	program change
All Contr	All midi controllers
Prog + Vol	prog.chng & volumes
Volume	Midi volume
Pedals	Hold,sustain,soft

Use the DATA +/- buttons to select the message that can be filtered out of the MIDI OUT data stream.

The default setting for the MIDI OUT Filter is OFF.

For example, if you were to connect the instrument to an external MIDI sound module, when you reduce the section volume of the **RP90**, a "MIDI Volume" message is sent which also changes the volume of the sound module. Furthermore, when you select a new sound on the **RP90**, a "Program Change" message would also be sent to the sound module, causing its sound to be changed too.

In situations where changes to the external device are not required, these could be avoided by selecting the MIDI OUT FILTER "PROG + VOL":



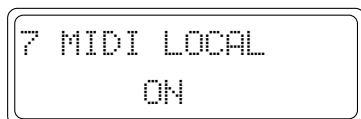
This means that the **RP90** would no longer send out these unwanted messages.

The last MIDI Out Filter selected is memorized even after turning the instrument off.

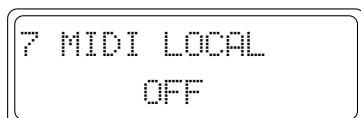
7. MIDI Local

This function, if OFF, isolates the **RP90** from its internal sound engine allowing it to be used as a MIDI controller. When ON, **RP90**'s keyboard data is directed to the internal sound engine as well as the MIDI OUT port.

Pressing Page Up shows the following display:



Press the DATA – button to set Local Off.



Return to the On setting with the DATA + button.

The Local Off setting simplifies the connection of the **RP90** with an external sequencer or computer, allowing the keyboard to be used as a controlling device and the internal sound engine as an expander when connecting to a sequencer/computer.

A typical example of the use of the Local control is when the **RP90** MIDI IN port is connected to the sequencer/computer MIDI OUT port, and the **RP90** MIDI OUT port to the sequencer/computer MIDI IN port (MIDI Loop connection). Set the sequencer/computer to operate in MIDI Thru mode (in other words, set it to return the data it receives from the **RP90** keyboard back to the **RP90** MIDI IN).

With Local Off, all messages generated by the **RP90** keyboard are excluded from the internal sound engine and sent via the MIDI OUT to the sequencer/computer, which then returns the data to the **RP90** sound engine via MIDI IN.

Note: The last Local setting remains memorized until changed again, or until the instrument is turned off. Turning the instrument on again sets to Local On.



8. MIDI Clock

This function allows you to select the timing clock for the Recording Studio (sequencer).

Pressing Page UP shows the display set for Internal Clock operation.

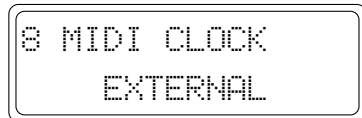


The two options available are:

Internal: the internal metronome controls the sequencer timing.

External: the MIDI IN clock signal transmitted by the external device controls the sequencer timing.

Use the DATA – button to select the External option.



Return to Internal with the DATA + button.

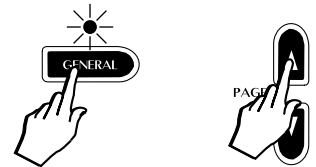
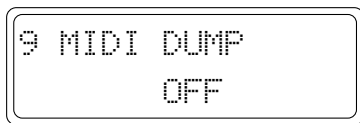
The last setting remains in memory until changed again, or until you turn the instrument off. When you turn on the instrument, the MIDI Clock will return to Internal.

9. MIDI Dump

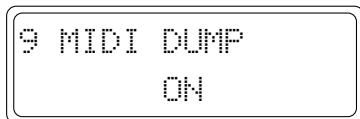
Using the MIDI Dump feature, you can send all of the information currently held in the instrument's User Preset section to an external storage device such as a MIDI sequencer, data filer, etc.. Refer to the owner's manual of your MIDI software, sequencer or data filer for instructions on how to receive MIDI dumps from other equipment.

Here's the procedure for sending a MIDI dump:

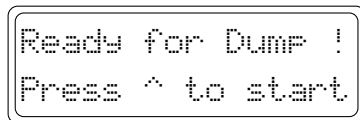
1. Connect a MIDI cable between the **RP90** MIDI OUT and the storage device's MIDI IN.
2. Access the MIDI DUMP function from the General button and press PAGE UP several times until the correct display appears:



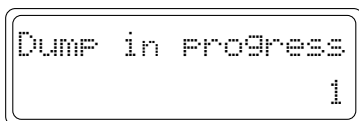
3. Press the DATA + button to select "ON":



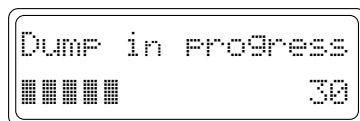
4. Press the Page Up button to get the instrument ready for the transmission:



5. Prepare the storage device to receive a MIDI Dump.
6. Respond to the "Ready for dump - press ^ to start" message by pressing Page UP once more.

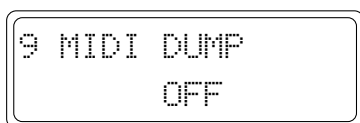


...



You will see the dump progress screen until the dump is complete. The time taken for a MIDI dump depends on the amount of data being transferred.

When the MIDI dump has finished, the display returns to the starting display.

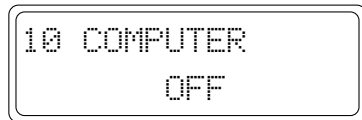


At this point, you can proceed with the selection of the next General function.

10. Computer

This function allows you to set the operating mode for the computer serial port on the instrument's back panel. This port allows two-way communication between the **RP90** and a PC without the need for a MIDI interface. A cable to connect the instrument to your PC or Macintosh can be obtained from your dealer.

Pressing the Page Up button shows the following display:



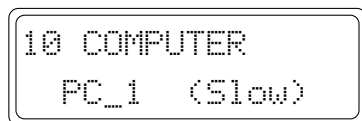
There are three modes which can be selected, as shown by the following table:

Selections
OFF (default)
PC_1 (Slow)
PC_2 (Fast)
Apple

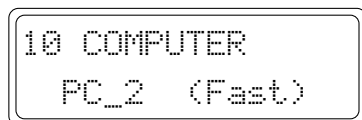
Use the DATA +/- buttons to select the options available.



OFF : all MIDI data is directed to the MIDI interface.



PC-1 : suitable for connection to a PC with 80386, or earlier processor.



PC-2 : suitable for connection to a PC with 80486, Pentium or faster processor.



Apple : suitable for any Macintosh computer.

When you enable the Computer port for one of the transmission/reception options, the instrument's MIDI interface will be automatically disabled for transmission/reception.

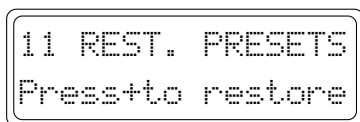
The last Computer setting selected is memorized even after turning the instrument off.

11. Restore Presets

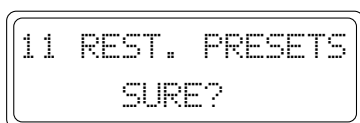
This function allows you to restore all of the factory-programmed User Presets that you may have memorized to the User Preset locations.

Note: doing this will destroy any User Presets which you have saved into the instrument yourself.

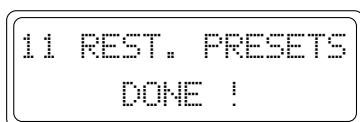
Entering the Restore Preset function with Page Up shows the following display:



Press the DATA + button to display a confirmation request for the operation:



Press the DATA + button once more to complete the restore operation:



After a few seconds, the display returns to normal to allow you to proceed with the selection of another General function.

Note: before confirming the Restore Preset operation, be sure that you have saved your User Presets to an external storage device by using the MIDI Dump feature.

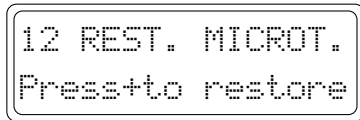


12. Restore Microtune

This function allows you to reset the User Microtuning temperament (Perf Edit page n. 11).

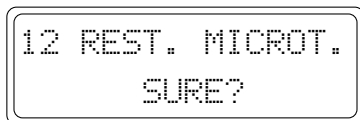
This is a useful feature if you have been trying to create a user tuning scale unsuccessfully and wish to start from the beginning again.

Entering the Restore Microtune function with Page Up shows the Restore Microtune display:



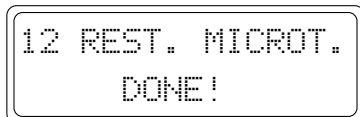
12 REST. MICROT.
Press+to restore

Press the DATA + button to display a confirmation request for the restore Microtune operation:



12 REST. MICROT.
SURE?

Press the DATA + button once more to complete the restore operation:



12 REST. MICROT.
DONE!

After a few seconds, the display returns to normal to allow you to proceed with the selection of another General function.



13. Piano Frame Level

This function controls the volume of the string vibration that is conducted through the plate of the piano from the undamped strings in the upper register of the piano. The default value is 50 (a good simulated grand piano plate size). Increasing the value increases these harmonics to simulate a plate size beyond even a concert grand piano at a value of 127! Decreasing the value softens the harmonics to faithfully reproduce the plate size of a smaller console type piano.



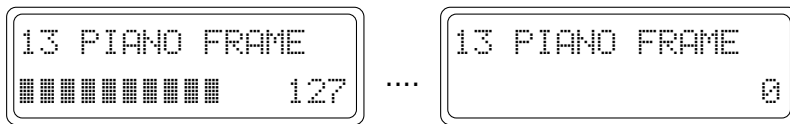
Entering the Piano Frame function with Page Up shows the following display with the default setting of 50:



Use the DATA +/- buttons to adjust the value to a level to suit your playing.



Although characteristic of an acoustic piano, some players may prefer to reduce the level of the Piano Frame effect or disable it completely (0 level).



The recommended level to simulate a 9 ft. grand piano is 50.

The setting programmed in this display remains memorized even after turning off the instrument.

14. Display Contrast

Use this function to improve the visibility of the display under different lighting conditions.

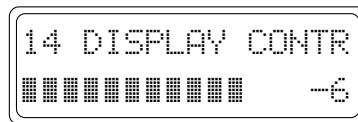
Pressing Page Up shows the default Display Contrast setting:



Use the DATA +/- buttons to adjust the Display Contrast value within the range - 6, ... 0, ... 6.



...



A higher value will give a stronger contrast.

Section 6

Recording Studio/Sequencer

The **RP90** features a simple but powerful sequencer which allows you to accurately record your playing or create simple songs. This section takes a closer look at the controls and related functions.

Recording Studio Controls

How to record a simple Song using **RP90**'s on-board sequencer (Recording Studio) is explained in the Quick Guide (page 16). This section takes a close look at the sequencer controls and how to use them.

The Recording Studio, located on the extreme right of the instrument's control panel, consists of two buttons: **Play\Stop** and **Rec**.

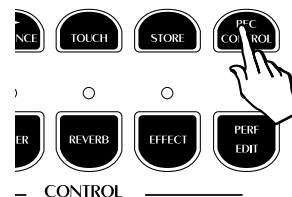
- Play/Stop :** Starts and stops either playback or recording.
- Rec (Record) :** Activates "Record pending" mode.
Recording actually starts when you press the Play button.



Rec Control

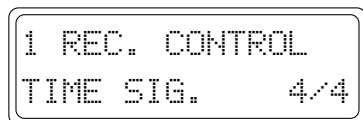
Another sequencer control button, called **REC CONTROL**, resides in the **CONTROL** section, located to the left of the Recording Studio.

This button allows you to adjust several fundamental recording parameters (Time Signature, Metronome, Countdown).



Time Signature

When you press the **REC CONTROL** button, the display shows the first page of the **Rec Control** menu, corresponding to the **Time Signature** function:



This page offers a selection of **Time Signatures** for the Song you wish to record. The default setting is 4/4.

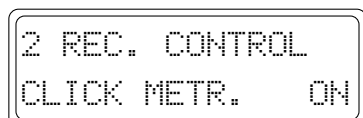
By using the **DATA +/-** buttons, you can select from the following selection table:



Time Sign.
2\4
3\4
4\4
5\4
6\8
9\8
12\8

Metronome (click)

Press **Page Up** to enter the second page of the **Rec Control** menu; **Metronome click**.



In this page you can activate/deactivate the Metronome (click).

The default setting is ON. Use the DATA – button to deactivate (Off) the metronome.

```

2 REC. CONTROL
CLICK METR. OFF
  
```



The DATA + button reactivates the setting.

Countdown

Press PAGE Up to enter the last page of the Rec Control menu: Countdown.

```

3 REC. CONTROL
COUNTDOWN ON
  
```



In this page you can activate/deactivate the countdown measure.

When you press PLAY to start your recording after activating the sequencer, the Countdown measure gives you a one measure lead into the recording. No events are captured by the sequencer if you play during the one measure countdown.

If you prefer to record without the countdown measure (ON by default), press the DATA – button to deactivate the setting (Off).

```

3 REC. CONTROL
COUNTDOWN OFF
  
```



Start playing as soon as you press PLAY to start the recording.

The **RP90** Recording Studio (sequencer) is able to record the following events:

- Keyboard and pedal data;
- Preset change data;
- Changes of the Preset balance settings;
- Activation/deactivation of the Layer and Split buttons;

Note: Once you have recorded your sequence, it is possible to play along with the recording using a different Preset.

Section 7

Reference

RP90 Technical Specifications

Keyboard	88 keys with hammer action
Polyphony	64 Voices
Sounds	64 Preset + 64 programmable User Preset,
Operating Modes	Single - Split - Layer
General Controls	Volume, Transpose, Brilliance, Tuning, Touch Sensitivity, Frame Control, Balance, Demo
Edit	Sound Program, Sound Volume, Section Transpose, Rev.Parameter, Reverb Send A\B sounds, EFX Send A\B Sounds, EFX Parameter 1, EFX Parameter 2, Microtuning, Auto-Wha, Detune, Delay, Damper assign.
Display	16 x 2 LCD (backlit).
Digital Effects	2 separate Digital Effects : 8 Reverb, 8 Modulation with separate Send Level
Physical Models	Damper Physical Model, Natural String Resonance, Advanced Release Technology
Recording Studio	1 song, Rec & Play function & control, 15.000 events
MIDI	16 channels, Common channel, Dump.
Connectors	2 Headphones, PedalSwitch (Damper, Soft), Computer (PC1, PC2, Mac), MIDI In/Out/Thru, Stereo input, Stereo output.
Amplification	25 W + 25 W
Speakers	2 Full range 5"
Accessories	Optional Bench
Notes	Operating system in Flash ROM memory, Operating System can be upgraded via computer

Technology

The **RP90** features three unique applications of sound design technology including “physical models” to simulate the internal characteristics of a piano soundboard.

Natural String Resonance

The first physical model technology, patented by Generalmusic as “*Natural String Resonance*”, allows all of the complex harmonics normally produced by the piano soundboard to be faithfully reproduced. This means that a note’s individual sound will always be slightly different depending upon which other notes are currently being held, (and consequently which strings are un-damped and free to resonate in sympathy). If you hold a low “C” and let the note decay, the strings for that note are still un-damped for as long as the key remains depressed. If you now strike another “C” higher up the keyboard, (staccato), you will hear the sympathetic resonance of the low “C” strings in response to the new note played. This natural effect replicates exactly what happens on a grand piano. If you experiment with different combinations of notes you will hear harmonic colours particular to each. Because this effect is produced by physical models and not by samples or DSP effects, the result is a musically and technically accurate simulation of a piano’s soundboard and virtually infinite combinations of harmonics can be produced.

Damper Physical Model

The second technology, patented by Generalmusic as “*Damper Physical Model*”. When the damper pedal is depressed, the damper physical model will simulate the effect of sympathetic resonances being produced by the un-damped strings. You can hear the effect of the Damper Physical Model by comparing the sounds of notes played in the highest octave of the instrument with and without the damper pedal depressed.

Advanced Release Technology

The third and final technology applied to the piano sounds in the **RP90** is “*Advanced Release Technology*”, (patent pending). Sample based electronic pianos traditionally use envelope generators to control what happens when a key is released. This simply allows the sample loop to continue for a set period of time until it’s amplitude is reduced to zero by the envelope generator. In an acoustic piano, vibrating strings are silenced by the action of a damper making contact with the string. When this happens, depending on the velocity with which the key was struck and the length of the string itself, certain frequencies are damped earlier than others producing a distinctive harmonic “ring” as the different frequencies in the string’s tone dissipate throughout the piano soundboard. The ART in the **RP90** simulates exactly this feature with complete accuracy throughout the 88 note range.

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RP90

RealPiano

D I G I T A L

Appendix
Appendice
Anhang

 **GEM**
by GENERALMUSIC

RP90 PRESETS/USER PRESETS TABLE

PRESET	USER PRESET
•GROUP PIANO	•GROUP PIANO
1- GRANDPIANO	65- GRANDPIANO 2
2- ELECT.GRAND	66- CUSTOM GRAND
3- UPRIGHTPIANO	67- ROCK PIANO
4- HONKY TONKY	68- HONKY TONKY 2
5- CHORUS PIANO	69- EFX PIANO
6- STRING PIANO	70- POP PIANO
7- JAZZ PIANO	71- JAZZ PIANO 2
8- ELECTRIC DUO	72- ELECTRIC SPLIT
•GROUP EL.PIANO	•GROUP EL.PIANO
9- RHODEX 1	73- PHASE RHODEX
10- WURLIE	74- SYNTH WURLIE
11- RHODEX 2	75- MIXRHODEX
12- FM PIANO	76- FM PIANO 2
13- RHODEX PAD	77- RHODEX PAD 2
14- FULL TINE	78- MIXED FM 2
15- RHODEX BASS	79- RHODEX BASS 2
16- WURLIE BASS	80- WURLIE BASS 2
•GROUP KEYBOARD	•GROUP KEYBOARD
17- HARPSICHORD	81- HARPSICHORD 2
18- CLAVINET	82- SYN CLAVINET
19- CELESTA	83- CELESTA DROPS
20- GRAND HARP	84- GRAND HARP 2
21- MIXED CELESTA	85- MIXED HARP 2
22- PIANO HARP	86- MIXED CELESTA 2
23- CONTINUM	87- PIANO HARP2
24- SPLIT HARP	88- HYBRID PIANO 2
•GROUP ORGAN	•GROUP ORGAN
25- JAZZ ORGAN	89- POP ORGAN 2
26- JAZZ ORGAN 2	90- JAZZ ORGAN 2
27- THEATRE ORGAN	91- THEATRE ORGAN 2
28- PIPE ORGAN	92- PIPE ORGAN 2
29- DRAWBARS	93- DRAWBARS 2
30- PIANORGAN	94- PIANORGAN 2
31- ORGAN COMBO 1	95- ORGAN COMBO 3
32- ORGAN COMBO 2	96- ORGAN COMBO 4
•GROUP STRING	•GROUP STRING
33- STRING1	97- CONCERTO GROSSO
34- MELLOW STRING	98- STRING PAD
35- SLOW STRING	99- STRING THIN
36- OCTAVE STRING	100- STRING HARP
37- STRINGBELL 1	101- STRING RHODEX
38- STRINGBELL2	102- STRINGBELL 3
39- SYMPHONIC	103- SYMPHONIC 2
40- CONCERTO	104- CONCERTO 2
•GROUP CHOIR/PAD	•GROUP CHOIR/PAD
41- CHOIR 1	105- CHOIR PAD
42- SLOW CHOIR	106- CHOIR BELL
43- ATTACK PAD	107- PAD RHODEX
44- TAP PAD	108- CLAIRE DE LUNE
45- MIXDPAD 1	109- MIXDPAD 3
46- MIXPAD 2	110- MIXPAD 4
47- RAIN PAD	111- RAIN PAD 2
48- BARCHIME PAD	112- BARCHIME PAD 2
•GROUP GUITAR	•GROUP GUITAR
49- NYLON GUITAR	113- NYLON PAD
50- STEEL GUITAR	114- 12 STRING 2
51- JAZZ GUITAR	115- JAZZ DUO
52- STRATO GUITAR	116- STRATO PAD
53- HARPTAR	117- GUITAR DROPS
54- 12 STRING 1	118- MIXGUITAR 2
55- WES COMBO	119- GUITAR COMBO 3
56- COUNTRY DUO	120- ACOUSTIC DUO
•GROUP VIBES	•GROUP VIBES
57- VIBES 1	121- VIBES DROPS
58- VIBES 2	122- VIBES RHODEX
59- VIBES 3	123- VIBRIMBA
60- MARIMBA	124- WURLIMBA
61- VIBES HARP	125- VIBES HARP 2
62- VIBES PIANO	126- VIBES PAD 2
63- VIBES COMBO 1	127- VIBES DUO
64- VIBES COMBO 2	128- VIBES GUITAR

MIDI IMPLEMENTATION CHART

MANUFACTURER

Date 15/05/99

GENERALMUSIC S.p.A.

MODEL: RP90

Version 1:00

FUNCTION		Transmitted	Recognized	Remarks
Basic	Default	1	1	
Channel	Changed	1-16	1-16	
Mode	Default	Mode 3	Mode 3	
	Messages	X	X	
	Altered	*****	X	
Note		9-120	9-120	
Number	True Voice	*****	9-120	
Velocity	Note ON	o	o	
	Note OFF	o	o	
After	Key's	x	x	
Touch	Ch's	x	x	
Pitch Bender		x	x	
Control		0 Bank select MSB		
Change		7 Volume	7 Volume	
		64 Damper pedal	64 Damper pedal	
		66 Sostenuato	66 Sostenuato	
		67 Soft pedal	67 Soft pedal	
			91 Reverb send	
			93 Effect send	
			117 (key on)	(1)
			118 (key off)	(1)
			120 All sound off	
		121 Reset all controllers	121 Reset all controllers	
Program		0-127	0-127	(2)
Change	True number	*****	0-127	
System Exclusive		o	o	
System	Song Position	x	x	
	Song Select	x	x	
Common	Tune	x	x	
System	Clock	o	o	
Real Time	Commands	o	o	
Aux	Local On/Off	x	x	
Messages	All Notes Off	o	o	
	Active Sensing	o	o	
	Reset	x	x	

NOTES (1) On Common channel, these messages are interpreted as Special Control messages. See table on the next page.
 (2) Cn xx (0 ≤ 'xx' ≤ 47 select Single sounds when MIDI MODE is DUAL Channel.
 Cn xx (0 ≤ 'xx' ≤ 63 select preset combinations when MIDI MODE is Common Channel.

o = YES; x = NO

Special Control Change messages

Generalmusic Special Control Changes

RP 90 KEYS selection

Bn 75 00	Push key DEMO	Bn 76 00	Release key DEMO
Bn 75 01	Push key GENERAL	Bn 76 01	Release key GENERAL
Bn 75 02	Push key TRANSPOSE b	Bn 76 02	Release key TRANSPOSE b
Bn 75 03	Push key BRILLANCE -	Bn 76 03	Release key BRILLANCE -
Bn 75 04	Push key TRANSPOSE #	Bn 76 04	Release key TRANSPOSE #
Bn 75 05	Push key BRILLANCE +	Bn 76 05	Release key BRILLANCE +
Bn 75 06	Push key PIANO 1	Bn 76 06	Release key PIANO 1
Bn 75 07	Push key 1	Bn 76 07	Release key 1
Bn 75 08	Push key EL PINAO	Bn 76 08	Release key EL PINAO
Bn 75 09	Push key 2	Bn 76 09	Release key 2
Bn 75 0A	Push key KEYBOARD	Bn 76 0A	Release key KEYBOARD
Bn 75 0B	Push key 3	Bn 76 0B	Release key 3
Bn 75 0C	Push key ORGAN	Bn 76 0C	Release key ORGAN
Bn 75 0D	Push key 4	Bn 76 0D	Release key 4
Bn 75 0E	Push key STRINGS	Bn 76 0E	Release key STRINGS
Bn 75 0F	Push key 5	Bn 76 0F	Release key 5
Bn 75 10	Push key CHOIR	Bn 76 10	Release key CHOIR
Bn 75 11	Push key 6	Bn 76 11	Release key 6
Bn 75 12	Push key GUITAR	Bn 76 12	Release key GUITAR
Bn 75 13	Push key 7	Bn 76 13	Release key 7
Bn 75 14	Push key VIBES	Bn 76 14	Release key VIBES
Bn 75 15	Push key 8	Bn 76 15	Release key 8
Bn 75 16	Push key GRANDPIANO	Bn 76 16	Release key GRANDPIANO
Bn 75 17	Push key PRESET	Bn 76 17	Release key PRESET
Bn 75 18	Push key PAGE DOWN "	Bn 76 18	Release key PAGE DOWN "
Bn 75 19	Push key PAGE UP !	Bn 76 19	Release key PAGE UP !
Bn 75 1A	Push key DATA -	Bn 76 1A	Release key DATA -
Bn 75 1B	Push key DATA +	Bn 76 1B	Release key DATA +
Bn 75 1C	not defined	Bn 76 1C	not defined
Bn 75 1D	not defined	Bn 76 1D	not defined
Bn 75 1E	not defined	Bn 76 1E	not defined
Bn 75 1F	not defined	Bn 76 1F	not defined
Bn 75 20	Push key SPLIT	Bn 76 20	Release key SPLIT
Bn 75 21	Push key BALANCE -	Bn 76 21	Release key BALANCE -
Bn 75 22	Push key LAYER	Bn 76 22	Release key LAYER
Bn 75 23	Push key BALANCE +	Bn 76 23	Release key BALANCE +
Bn 75 24	Push key REVERB	Bn 76 24	Release key REVERB
Bn 75 25	Push key TOUCH	Bn 76 25	Release key TOUCH
Bn 75 26	Push key EFFECT	Bn 76 26	Release key EFFECT
Bn 75 27	Push key STORE	Bn 76 27	Release key STORE
Bn 75 28	Push key PERF EDIT	Bn 76 28	Release key PERF EDIT
Bn 75 29	Push key REC CONTROL	Bn 76 29	Release key REC CONTROL
Bn 75 2A	Push key STOP	Bn 76 2A	Release key STOP
Bn 75 2B	Push key RECORD	Bn 76 2B	Release key RECORD

FEDERAL COMMUNICATIONS COMMISSION

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this instrument does cause harmful interference to radio or television reception, which can be determined by turning the instrument off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications to this product not expressly approved by the manufacturer could void the user's authority to operate this product.

GENERALMUSIC Code 271277

Specifications are subject to change without prior notice.
Specifiche soggette a cambiamento senza preavviso.
Änderungen -auch ohne Vorankündigung- sind vorbehalten.

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